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Front cover: The Holly Blue parasitoid *Listrodomus nychthemerus* found for the first time in Yorkshire (see pages 166 and 174). Photo: *Ken Gartside*

Back cover: Leeds University students with Jill Campbell (far right) at the YNU Field Skills training day in September. Photo: *Ken Gartside*

The Naturalist

Jane Pottas, President of the YNU 2018-19

Let me introduce myself by telling you what I am not. I am not an expert in anything. At the age of 64 I have had a Eureka moment and it came as quite a shock to realise that I will never be an expert in anything or at the top of any tree or the head of any board or the go-to-person for anything. I'm a Jack-of-all-trades – and not many trades at that. When I was asked to write about myself for *The Naturalist* I started to make a list of what I have done – I hesitate to use the word achievements as this implies a successful conclusion to something and I still feel as though I'm on a journey of discovery and in a flash of self-knowledge I realise that it is this that makes me tick. There is so much to learn, to find out about, to understand and to discover and as the clock ticks I'm very aware that I have less time ahead of me than I've spent arriving at this point so I cannot waste a minute of what time I have left. I'm certainly not a polymath. I'm just inquisitive. Some might say nosy! And I'm certainly not a good example of how to achieve success. As a teacher I was regularly encouraged by diktats from above to get my students to set out a career plan – to say where they wanted to be in two or five or ten years' time. I felt a fraud as someone who has just lurched from one thing to another with no plan at all, something which is unlikely to change now.

So why was I invited to be President of the Yorkshire Naturalists' Union? You may well ask and it's something I'm still asking myself. No doubt some people dodged the bullet by getting out of range and others just refused. There will be some who feel that they should have been asked and I'm well aware that there are many who are far more deserving of the role. What I am about to tell you about myself is not to justify my appointment but to try to reassure some of you that I do have more than a passing interest in natural history and that I will do my best to serve you as President in the coming year – look upon me as a sort of John the Baptist, the forerunner of a more worthy leader. This is not false modesty – as you will see.

This is my potted history. Parents inevitably shape the lives of their children and mine inculcated a fascination with and love of the natural world and the outdoors. My father was a keen hill walker and bird watcher who also loved messing about in dinghies (my mother's description of his passion for sailing). Holidays were spent in Wester Ross in the north-west of Scotland and Shetland – still relatively remote and uncommercialised in the 1960s and 70s – where as children we spent our time swimming, playing in the dunes, damming streams and having adventures in our own version of Swallows and Amazons. Enjoying the natural world whatever the weather proved to be useful preparation for some of the CoCoast bioblitzes which were blighted by heavy rain. One family anecdote recounts how at age five I arrived home from school very late for lunch one day, to my mother's consternation, because I had been looking at a dead rat I had found in the hedgerow beside the path. I'm not sure what I now find so surprising about this story – that a five year old should have been so interested in a dead rat or the fact that five year olds were allowed to walk to and from school on their own! At primary school I kept the nature table supplied with sheep skulls, sometimes with accompanying slugs and snails, wool gatherings, cones, berries and other assorted bones collected on country walks. Biology was my preferred subject at school and after A levels I went to Liverpool Polytechnic to read Applied Biology with Ecology as my main subject – this being one of the first degrees in Ecology in the country in 1972. Foreign field trips as an integral part of a degree were virtually unknown back then but one summer a dozen of us organised a three week expedition to the Isle of Skye where we carried out field work we devised ourselves – not as a requirement of our studies, but just because we wanted to. Looking back it was quite an achievement, if a small one, compared to the experiences open to students today. My final year dissertation was on the physiology of barnacles. A PGCE at Hull University led to a few years' teaching KS4 Science and A level Biology. As the child of committed autodidacts who also undertook more formal study at adult education classes (sadly now greatly reduced by funding cuts), and in my father's case a degree in his late forties, I followed their example and embarked on a part time PhD at the Scarborough Campus of Hull University. My first visit to the campus confirmed my decision to study for a higher degree when I saw on a notice board some photographs of students knee deep in mud doing field work in the estuary of the River Esk at Whitby. I felt very envious!

Eight years of juggling research alongside looking after four children, two dogs and a cat; teaching part time; doing B&B at weekends and holidays with a husband who had a demanding job in charge of five departments in a school finally paid off and I graduated in 2007. The title of my thesis was "Morphological, ecological and genetic variation in two forms of *Fucus spiralis* L.". This in no way qualifies me as an expert – it just means I know quite a lot about very little. There followed a brief period lecturing but as a Teaching Fellow I had no opportunity to do any research so was made redundant after two and a half years as teaching did not count in the Research Excellence Framework. I then worked for a year as an Education Assistant with the North York Moors National Park before heading to London to work as a Research Assistant in the Cryptogamic Herbarium at the Natural History Museum. I was fortunate to work on a number of projects including Capturing the Aliens – about non-native seaweeds in Britain; the revised checklist of the seaweeds of Britain; a draft red data list of UK seaweeds; and Seaweed Collections Online, an online resource bringing together seaweed collections at the NHM and other museums across the UK.

All good things come to an end and after two years in London I returned home to Whitby, since when I have taught an Access course for Coventry University and have been involved with the

Capturing Our Coast project, initially as a volunteer and later employed as a Field Assistant at the Hull University hub. I have been engaged as a part time tutor for the Field Studies Council and have taught several courses about seaweed identification at FSC Millport. I am Seashore Recorder for Whitby Naturalists' Club and for the last three years have organised the Club lecture programme which is held each year between October and March. I have been asked to redevelop the seashore cabinet in Whitby Museum and this has involved many visits to local shores to collect items to display as well as doing a certain amount of research into items in the stores, including artefacts associated with the British Tunny Club (the world record Tunny was caught off Whitby in 1933). I am also creating an algarium (a herbarium of seaweeds) of species found on the north-east coast for Whitby Museum because they do not have one – something I found quite surprising for a seaside town. As you can tell, there is definitely a marine theme going on in my life!

Other interests include making cyanotypes of seaweeds (after the style of Anna Atkins, an early exponent of the blueprint technique to make prints of flowers, ferns and seaweeds) and also applying the technique to a range of forms to create images. I am also active in raising awareness in Whitby of the problems associated with the unnecessary use of single-use plastics and encouraging individuals and businesses to reduce their use of them. To this end I have formed WASPs (Whitby Against Single-Use Plastics). Find us on Facebook!

I am looking forward with some trepidation to being President of the YNU and hope I will vindicate the decision of those with the confidence (or desperation) to appoint me.

Honorary Treasurer sought for the YNU

The Yorkshire Naturalists' Union are inviting applications to join our Board of Trustees in the role of Honorary Treasurer, a position which will become available in April 2019. The current Treasurer, Mr Barry Warrington, has held this post for the past four years and would like to step down at the end of this financial year.

The Treasurer plays a vital role in the YNU, advising the Trustees on financial decisions, managing the day-to-day accounts, preparing the end-of-year financial statements and producing the annual report. Applications are sought from individuals with some experience of financial administration and a desire to support the charitable work of the YNU. Strong communication skills are essential and some knowledge of SAGE Accounts software would be desirable. This is an excellent opportunity to make a valuable contribution to the YNU. For a complete description of the role and information on how to apply, please visit the YNU website: www.ynu.org.uk/treasurer .

The YNU would like to take this opportunity to thank Barry Warrington most sincerely for his excellent work as Treasurer and Trustee over the past four years.

Casual observation of marshy habitat - Tanners Dam

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Tanners Dam is a medium sized acidic pond in a glorious moorland setting (fig.1), but also near an industrial site in Greenfield, Saddleworth, West Yorkshire (VC63). It was created by a local mill as a water source but has been disused for over 50 years and since then used for recreation. It has a rich flora and fauna, being adjacent to wild moorland with abundant Heather *Erica tetralix* and upland bog. It has some mature trees around the banks but also emergent vegetation at each end with sheep-grazed moorland meadow to one side containing Soft Rush *Juncus effusus* and Creeping Thistle *Cirsium arvense*. The pond is largely stony-bottomed, with soft mud built up in the marshy shallow ends which have Yellow Flag *Iris pseudacorus*, Yellow Water Lily *Nuphar lutea* and Great Reedmace *Typha latifolia*, with Marsh Pennywort *Hydrocotyle vulgaris*, Marsh Woundwort *Stachys palustris*, abundant Common Skullcap *Scutellaria galericulata* and some *Sphagnum* mosses in the damp banks.

Figure 1. Tanners Dam near Saddleworth *K.Gartside*

Tanners Dam has been fished (Carp *Cyprinus carpio* and other coarse fish) for many decades and though originally barren of emergent vegetation and bankside trees these have largely been left to develop naturally through sensible management.

Whilst awaiting a knee operation, which prevented me from walking far, I made frequent visits over the summer months (it is conveniently close to home) to record invertebrate wildlife by photographs — and this casual monitoring has revealed some interesting marshland species, with some new to Saddleworth and the Northern Peak District area.

Odonata

Breeding evidence of egg laying was captured on film and video for Brown Hawker *Aeshna grandis*. Six adults in flight were seen at once which is a high number for Saddleworth and is the first such site with multiple females ovipositing. The males appear to be highly territorial and have distinct niches on the less fished and vegetated side of the water.

Also breeding here and seen in cop were Large Red *Pyrrhosoma nymphula,* Common Blue *Enallagma cyathigerum* and Blue-tailed Damselflies *Ischnura elegans.* Besides male and female Common Darters *Sympetrum striolatum*, a notable and exciting find was Ruddy Darter,

Sympetrum sanguineum - a first for Saddleworth. A single male was seen over 4 separate days hunting and sunbathing, even allowing close-up macro photographs. It is interesting to note that only one Moorland Hawker *Aeshna juncea* was seen this year, with no Broad-bodied Chasers *Libellula depressa* at this site, both of which are locally common.

Syrphidae

Very high numbers of damp rush-loving Hoverflies *Platycheirus granditarsus* and *P. rosarum* were seen, plus *Xylota segnis, X. sylvarum* and the water-breeding *Helophilus pendulus* (their larvae are rat-tailed maggots). Another Saddleworth first, *Ferdinandia cuprea,* was present on one occasion. This is normally a tree trunk sunbather, and their larvae breed in sap runs, including on Ash *Fraxinus excelsior*, which are present adjacent to the pond. *Syrphus ribesii* and other *Syrphus* species, *Dasysyrphus tricinctum, Episyrphus balteatus, Eristalis pertinax, E. tenax and E. nemorum* and the so-called Moorland Hover *Sericomyia silentis* were also noted, the latter mating.

Other Diptera

As expected, adult Snail-killing or Marsh flies (Sciomyzidae), whose larvae are parasitic on water snails, can be seen basking in sun on emergent Iris and Reeds *Phragmites australis*. *Sepedon sphegea* (fig.2), *Tetanocera sp.* and *Pherbina coryleti,* with nice netted wings, were recorded.

Figure 2. The marsh-fly *Sepedon sphegea* (Sciomyzidae). *K.Gartside*

Also seen were the conopid fly *Sicus ferrugineus*, Yellow-legged Centurion *Sargus flavipes*, the rust fly *Imantimyia (Loxocera) albiseta* in good numbers, *Tipula oleracea* and other Craneflies and an Ensign fly *Sepsis punctum*. The tachinid fly *Eurithia anthophila* was also noted. Unidentified pipunculids, muscids and calliphorids were also seen, the latter no doubt attracted by nearby casualties of a sheep and Canada Goose. Many thanks to YNU's Ian Andrews for help with some ID's on Facebook's Diptera site.

Orthoptera

A notable find was Slender Groundhopper *Tetrix subulata*, similar to grasshoppers but prefers damp places and is infrequently seen. This again is a first for Saddleworth. The Common Groundhopper *Tetrix undulata* was also briefly spotted but the record is awaiting confirmation. Common Green Grasshopper *Omocestus viridulus* was also noted. There will be more similar species.

Coleoptera

A Reed Beetle *Plateumaris discolor* was recorded on Flag Iris. Reed Beetles can be in different metallic colours – this one was brownish bronze. It prefers wet acidic habitat. *Plateumaris discolor* may be a synonym of *P. sericea* – that issue isn't totally resolved it seems.

Hymenoptera
The Sawfly *Athalia scutellariae* (thought probable only from photographs of adults) was found in small numbers. Next year I intend to look for the distinctive larvae to be certain. These are mainly associated with Marsh Skullcap *Scutellaria galericulata* which is in abundance here. They are probably under-recorded, with only 31 records on the National Biodiversity Network (NBN). A Sphecoid wasp *Pemphredon sp.* and Ichneumon *Itoplectis maculator* were also seen and given probable identifications with help of the Facebook Hymenopterists forum.

Lepidoptera
Small Copper, Large White, Green-veined White, Red Admiral, Speckled Wood and Large Skipper butterflies were seen in the bankside grassland.

Overall conclusions

- A habitat which initially appears to be fairly empty of interest with just a short look can be worth regular visits and careful monitoring which may well be rewarded by the unusual. Much remains to be discovered.
- It is also a reflection of the benefits of marshland and wild reedbeds to biodiversity, particularly in the light of the hot June and July we had in 2018, which appears to have affected some insect numbers, as noted in the Dipterists Forum Bulletin recently (No. 86).
- The site will be worth more casual and in-depth monitoring from spring onwards for a full year in 2019, not only for recording but also to see whether some species criteria for designation as a Site of Biological Interest via the local Ecology Unit might be met. This is with a view to preserving the site, being particularly mindful of potential planning applications to meet modern housing targets.

Time series analysis of Holly Blue records in Yorkshire – uncovering a parasitoid

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Introduction
The recorded numbers of the butterfly Holly Blue *Celastrina argiolus* have been shown to cycle up and down every 4-6 years and this has been attributed to the caterpillar population being parasitised by the larvae of the ichneumon *Listrodomus nycthemerus* (Revels, 1994, 2006). Revels provided convincing evidence of the host-parasitoid relationship between the butterfly Holly Blue and the parasitic ichneumon *L. nycthemerus* by collecting Holly Blue caterpillars and rearing them through to chrysalis. Over a period of 15 years he showed that the proportion of chrysalises that produced either Holly Blue butterflies or *L. nycthemerus* fluctuated; at the peak of the cycle almost all chrysalises hatched into a Holly Blue adult butterfly and at the trough of the cycle almost all chrysalises (99%) produced an adult *L. nycthemerus*. The cycle from peak to trough took 4-6 years to repeat with parasitic wasp numbers lagging behind butterfly numbers by one or two generations. Though Holly Blue young caterpillars are attacked by the tiny braconid wasp *Cotesia inducta* it is *L. nycthemerus* which appears to largely drive the cycle

by attacking the older caterpillars (Revels, 1994, 2006). *L. nycthemerus* has no other known host than the Holly Blue caterpillar while *C. inducta* attacks a number of Lycaenidae including White-letter Hairstreak *Satyrium w-album* (Shaw *et al.*, 2009).

That Yorkshire's Holly Blue populations showed booms and busts has been remarked on before (see Frost, 2005) who described a pattern repeating roughly every 5 years from 1990 to 2002. We now have data from a longer sequence of years so the potential for detecting convincing patterns in our data is stronger. More recently, in an article reviewing lepidopteral colonisers of Yorkshire an analysis of Holly Blue plotted the number of tetrads from which it was recorded between 1995 and 2017 (Smith, 2018, Fig. 14, replotted below as Fig. 1). The data in Figure 1 hints at some sort of periodic cycle that reduces in amplitude as the recording year approaches the present; it is suggestive of a damped oscillation such as happens when your car's shock absorbers minimise vertical movement when you pass over a pothole in the road. Interestingly, *L. nycthemerus* has never been recorded in Yorkshire (W.A.Ely, pers. comm.)[1].

The rationale for this article is to first present a better measure of Holly Blue population numbers – tetrad numbers are a measure of distribution that only *correlate* with abundance – so we shall use a true (sampled) population measure (number of individual butterflies recorded). Second, any periodic cycle appearing in our abundance measure of Holly Blue will be better revealed if we perform some simple analysis of the time series which will help us to strip out trends in population numbers which might obscure periodicity. Third, a mathematical treatment will allow the quantification of how strong any periodicity (signal) we observe in the data is relative to all other frequency components (the noise). The over-riding rationale for this article is that the uncovering of periodic cycles would provide indirect evidence for the long established presence of *L. nycthemerus* in Yorkshire.

Method

The Butterfly Conservation Yorkshire (BCY) database was searched for Holly Blue records for the period 1995 to 2017 from the five Watsonian vice-counties (VC61-VC65) comprising the county of Yorkshire for recording purposes. From these records the number of Holly Blue butterflies seen across all of Yorkshire for each year between 1996 and 2017 was calculated[2]. The annual count is across all broods (Yorkshire Holly Blue populations have two broods with a partial third brood in some years). This provides the Holly Blue time series Y_i a regularly sampled (=annual) series of successive data points that are temporally auto-correlated, e.g., the number of Holly Blues in a year is not independent of the previous year(s) Holly Blue numbers. The time series consists of members $y_1, y_2, \ldots, y_{22}$ where subscript 1 refers to the first entry (=1996), and subscript 22 is the last entry (=2017). The time series is assumed to be additive, i.e., the random fluctuations (noise) in the data are approximately constant over time.

Analysis of the Holly Blue time series took place within the *R* statistical environment (R version 3.4.4, R Core Team, 2018), using additional time series analysis packages where necessary

1 This was the case until during the writing of this paper a report of the first ever sighting of *L. nycthemerus* was received! Please see this issue p174.

2 The number of Holly Blue reported in 1995 was extremely low (=23). 1995 provides the first extant records of Holly Blue in the BCY database and is doubly confounded by the small numbers of observers sending in records and the recent movement of Holly Blue northwards in latitude. For these reasons the 1995 count was discarded from the time series.

(Ulrich, 2018). The mathematical treatment was performed with MATLAB and the Signal Processing Toolbox, Release 2007a (MATLAB).

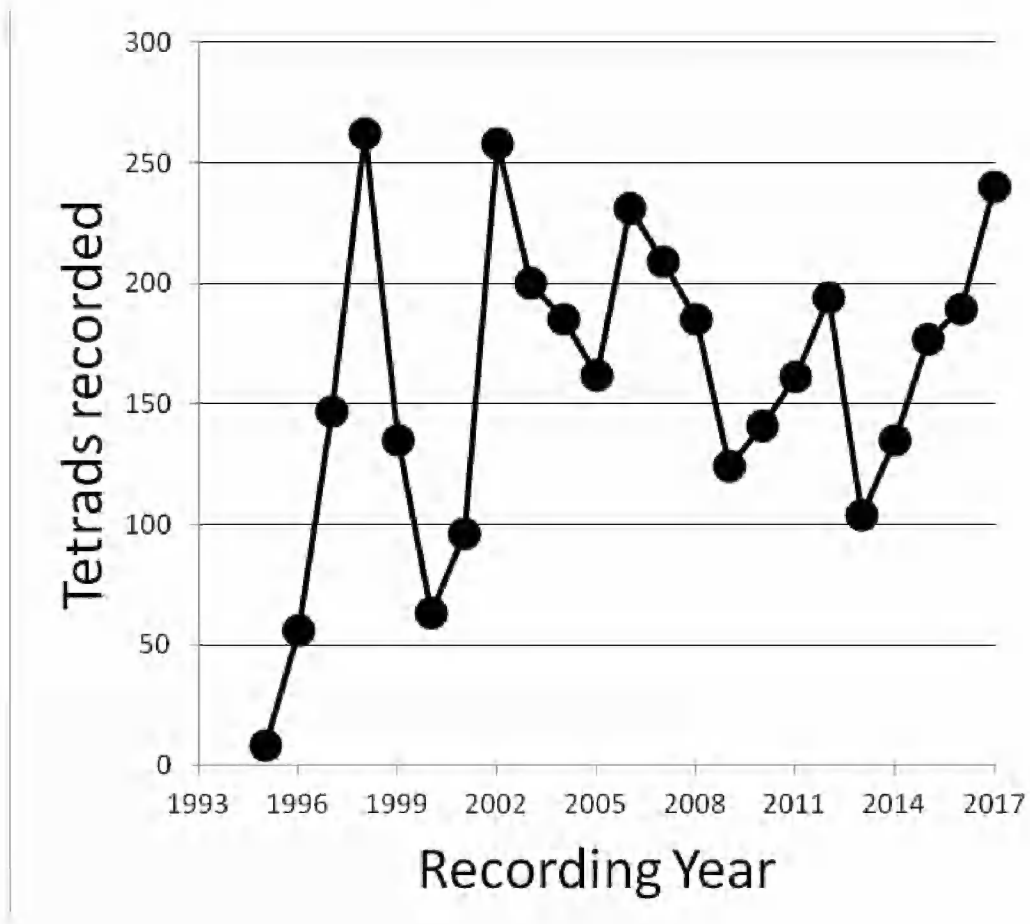

Figure 1. Data replotted from Figure 14 of Smith (2018). Number of tetrads in Yorkshire where Holly Blue was seen as a function of recording year. The data points are uncorrected raw tetrad counts per year, e.g., there has been no correction factor applied for the tendency for recorded tetrads to increase each year due to an increasing number of recorders. These data points are equivalent to the open circle symbols in Figure 14 of Smith (2018).

Results

Figure 2 is the Holly Blue time series, which shows the annual count of Holly Blue butterflies for each recording year across the whole of Yorkshire for 1996 to 2017. There is quite a convincing periodic pattern with a cycle of around 4 years which reduces in amplitude as we approach the present day. There is a suggestion that the period of the cycle lengthens towards the present; from 4 years between 1996-2004 to around 6 years between 2004-2017.

Before performing a mathematical analysis of the Holly Blue time series a simple analysis of the time series was conducted to justify whether it would be reasonable to perform a spectral analysis of the time series.

We can consider the Holly Blue time series as a mixture of three components: a long-term non-cyclic *trend* component which could be due to, for instance, the geographic spread of the Holly Blue as it reacts to changes in climate or perhaps simple drift in observer numbers; a *cyclic* component (confusingly often referred to as the 'seasonal' component in time-series analysis) which this article is principally interested in; and a *random* component (noise). For a reasonably brisk introduction to time-series analysis see Kendall and Ord (1990) or, for a slower-paced introduction, see the Open University book 'Time Series' (2006).

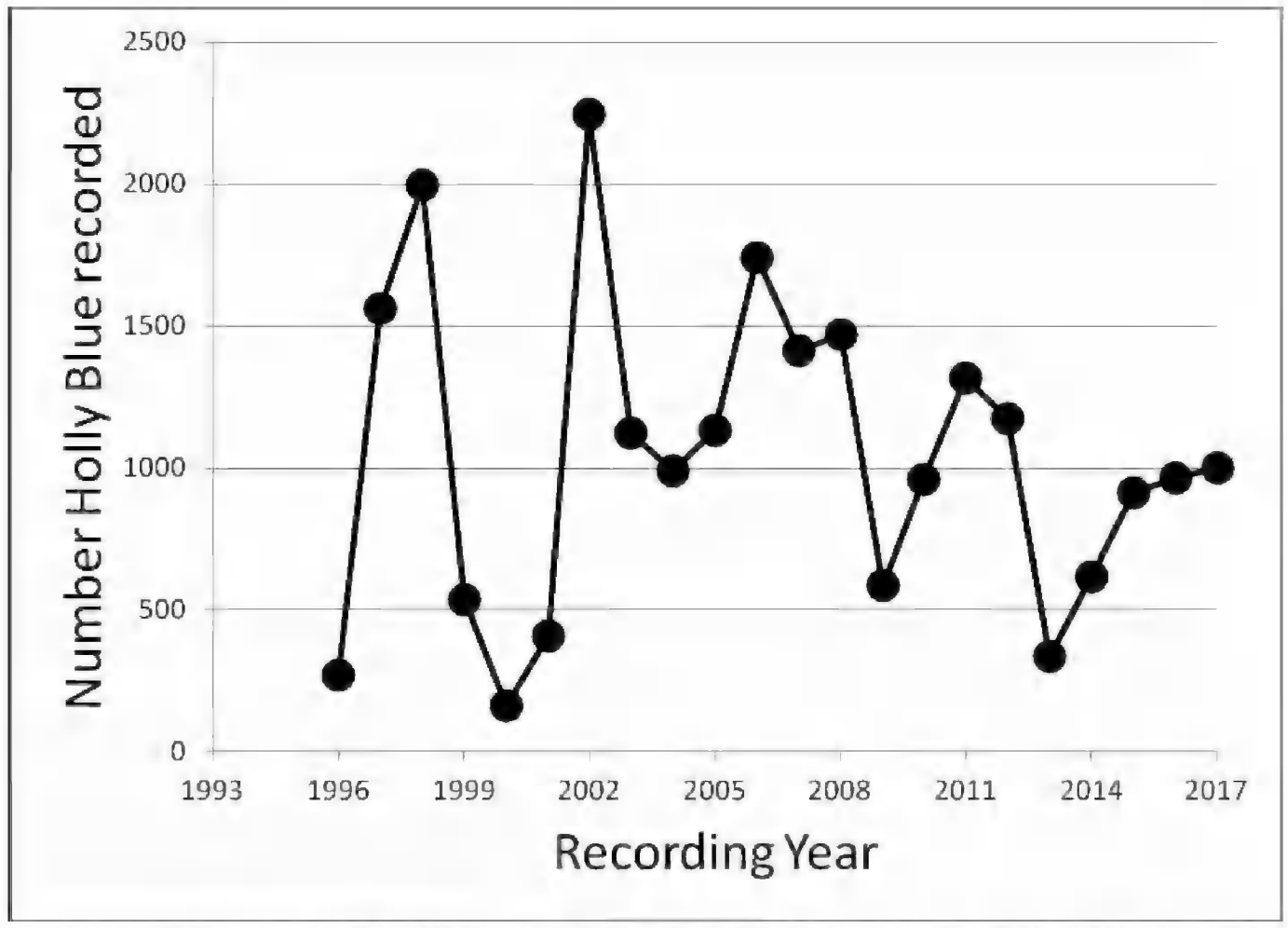

Figure 2. Annual counts of individual Holly Blue butterflies across the whole of Yorkshire as a function of recording year.

Figure 3 shows the Holly Blue time series Y_i decomposed into its trend y_i^T, cyclic y_i^C ('seasonal') and random y_i^E additive components. Thus the Holly Blue time series is taken to be defined as $Y_i = y_i^T + y_i^C + y_i^E$. The Holly Blue time series is shown in the top row of the figure ('observed'). The trend component (second row, Fig. 3) is calculated as a simple symmetrically-weighted moving five year mean: $(\sum_i^{i\epsilon\{i,i\pm1,i\pm2\}} y_i)/5$, e.g., the 1998 (3rd) entry in the trend (*T*) component y_3^T of the Holly Blue time series is 906 (calculated as the mean of five years centred on 1998 $(\sum_i^{1:5} y_i)/5$, = (271 + 1560 + 1997 + 537 + 164)/5); the 1999 (4th) trend component entry is 933 calculated as $(\sum_i^{2:6} y_i)/5$, and so on. The y_i^T trend component is undefined for the first and last two years in the series (1996-1997 and 2016-2017) as the mean 'window' sums across years for which we do not have data (1994-1995 and 2018-2019). The cyclic component (third row, Fig. 3) is calculated by *assuming* a 5-year cycle (which is the best guess and between a 4-year and a 6-year cycle) and building a 'model' cycle by finding the average of the first, second, ..., fifth elements of each cycle within the time series. This cyclic seasonal component y_i^C is then centred within the figure. The random component y_i^E (fourth row, Fig. 3) is the remainder when the trend and seasonal components are subtracted from the time series: $y_i^E = Y_i - y_i^T - y_i^C$.

The trend component y_i^T indicates that Holly Blue numbers have been declining since about 2004-2006. The cyclic component y_i^C is an averaged *model* of a five-year cycle in the data – the excursion around the ~0 baseline is about ±~500 – compared to a peak and trough excursion

around the ~1065 baseline of ±~600 in the observed time series Y_i. The random component y_i^E has a mean around ~40 with a standard deviation of ±~450. Preliminary analysis achieved by a decomposition of the time series (see Fig. 3) indicates that hunting for periodicity in the data is warranted as the cyclic component is substantial in size relative to the trend and random components.

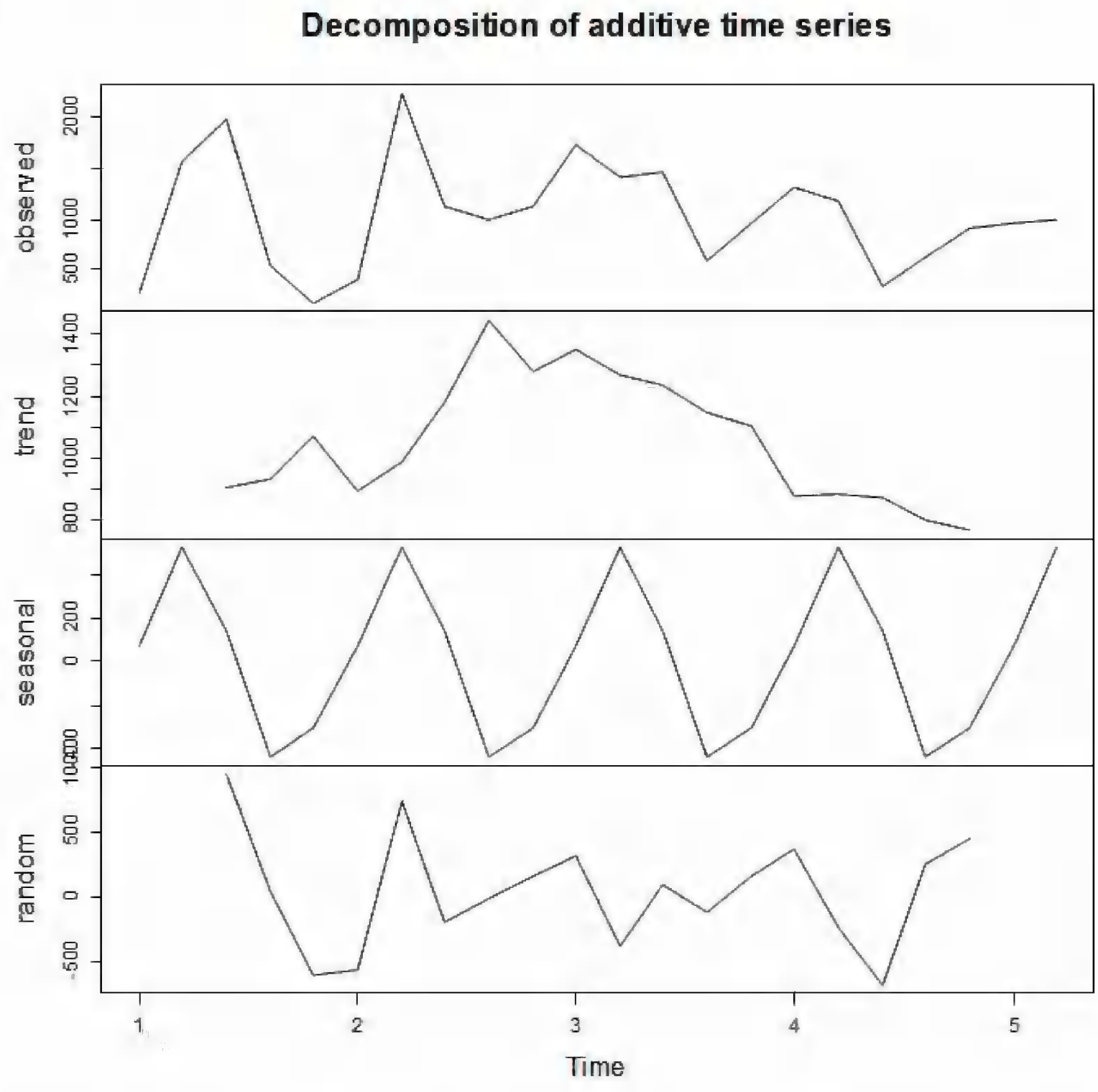

Figure 3. The decomposition of the Holly Blue time series (top row) into three components: a long-term trend (second row); a model seasonal component (third row) and a random component (fourth row). The x-axis is marked in cycles where the first cycle ('1') starts at 1996 and the second cycle ('2') starts at 2001, and so on.

The identification and quantification of the periodicity in the time series was achieved by performing a single spectrum (Fourier) analysis of the Holly Blue time series. The fundamental theorem of Fourier holds that any complex wave (or time series) is equivalent to an infinite number of sine and cosine component waves of various amplitudes, frequencies and phases added together (for a classic review see Bracewell (1965) and for a more applied review

see James (1995)). Thus we can take any given time series and analyse that complex series into its constituent periodic frequencies; we are interested in whether that breakdown into constituent periodic frequencies reveals any especially strong frequency component. If there is a very strong frequency that dominates the other constituent frequencies then this would be strong evidence that there exists a cycle in our time series. Moreover, we should be able to quantify the relative strength of that dominant cycle against the other constituent frequencies.

There are two steps we need to do to prepare our data for single spectrum analysis. First we 'detrend' the series by subtracting y_i^T; the rationale for this is that slow changes in Holly Blue numbers due to the arrival and possibly decline of Holly Blue in Yorkshire, changes in observer numbers, etc., will only act to dominate and obscure other more meaningful patterns in our time series. Second, we need to subtract the global mean $\overline{(Y_i - y_i^T)}$ from the series because this represents a constant zero-frequency baseline that will overwhelm all other constituent frequencies.

Therefore the time series, $Y_i - y_i^T - \overline{(Y_i - y_i^T)}$, was passed through a single spectrum analysis. The series passed for single spectrum analysis consisted of 18 points because the first and last two entries of the original time series were lost as y_i^T is calculated as a five-year moving mean which is undefined for the first and last two entries in y_i^T. Figure 4 shows the Periodogram Power Spectral Density Estimate (PPSDE) – this figure shows how much power there is as a function of frequency (Hz) in the Holly Blue time series. We can see that there are three peaks in the PPSDE. We can discount the peak around 9Hz as this arises from an 'edge effect' directly linked to the length of the time series; we would always expect a peak at $\frac{n}{2}$ Hz where *n* is the length of the time series. We are left with two peaks at 4Hz and 6Hz. The dominant (strongest power) peak is at 4Hz with another smaller peak at 6Hz; the 6Hz peak is ~6dB weaker than the 4Hz peak. Because the y-axis is in power dB this means that the 4Hz cycle is 4 times stronger than the 6Hz cycle. Both the 4 and 6Hz peaks are considerably stronger than other component frequencies that are not adjacent to the 4 and 6Hz centre frequencies[3]; for instance, the 2Hz component in the PPSDE is ~20dB weaker than the 4 and 6Hz components meaning that the 2Hz cycle component is ~100 times as weak as the 4 and 6Hz frequency components.

Discussion

The analysis of the time series abundance data for Yorkshire's Holly Blue show clear evidence of a 4-year cycle and, to a lesser extent, a 6-year cycle. Both cycle frequencies stand out against other non-adjacent frequencies (such as 2Hz) by a factor of 100. This can be taken as very strong indirect evidence of a clear 4-year and 6-year cycle of boom and bust in Holly Blue numbers – the obvious candidate would be *L. nycthemerus,* which is known to drive such host-parasitoid cycles in Holly Blue populations (Revels, 1994, 2006). The breaking news of the discovery of *L. nycthemerus* in Yorkshire this year (see front cover and this issue p174) gives direct evidence of the presence of this parasitic wasp. The analysis of the time series abundance data for Holly

3 Note that the 'broadness' of the peaks around 4Hz and 6Hz, with significant power around the peak frequency, is an inevitable consequence of having a short time series which induces 'leakage' into adjacent frequencies. A longer time series would allow for sharper peaks because the sampling resolution of a series increases with length.

Blue indicates that the parasitic wasp has long been established in Yorkshire. *L. nycthemerus* may have travelled with, or closely followed, the Holly Blue northwards into Yorkshire around the mid 1990s.

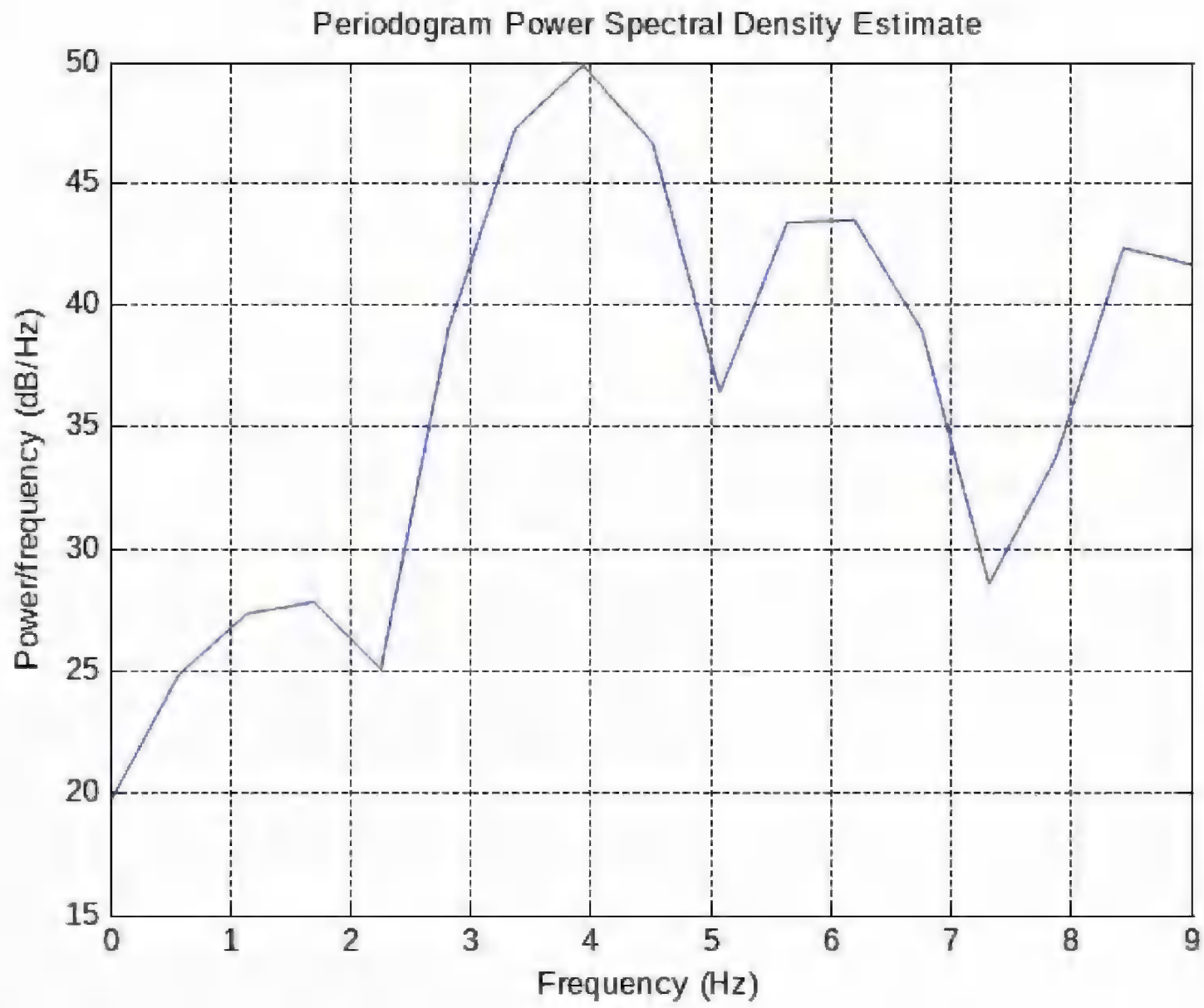

Figure 4. The Periodogram Power Spectral Density Estimate. The power of each frequency component in the single spectrum analysis of the Holly Blue time series was extracted using a nonparametric periodogram with a Hamming window. The x-axis is marked in frequencies measured in Hz, such that 4Hz is equal to a 4-year cycle, and so on.

It is interesting to note that the cycle appears to have lengthened from 4 years (1996—2004) to 6 years in the last half of the time series (from about 2004), and this coincides with the beginning of a long-term decline in Holly Blue numbers (see second row, Fig. 2). Lengthening time periods in predator-prey cycles can be associated with a positive nonlinear trend (John Bowers, pers. comm.) but here we have a lengthening of cycle period with a negative quasi-linear trend. One interpretation of the lengthening period of the cycle is that as Holly Blue caterpillars become rarer it is harder for *L. nycthemerus* to find hosts to parasitise, which leads to a slower build up of wasp numbers and consequently a longer cycle period.

It should be acknowledged that recording variation applies at different time scales. An attempt to remove long-term trends (due to possible factors such as changes in the geographic spread of Holly Blue or changes in recorder numbers) was made by subtracting the five-year moving average from the time series. However, there was no compensation for recording variation at

smaller time scales which might affect the seasonality (cycle) and noise components of the time series. For this reason, fluctuations in population levels in butterflies should ideally be studied using transect data where recorder effort is held constant. However, Holly Blue has the strongest correlation ($r^2 = 0.85$) between transect and casual abundance data of all UK butterfly species (Mason *et al.*, 2017), so this should not be much of an issue for this study. Given that we see a clear cyclic component in data collected from a substantial part of Yorkshire (for instance, Holly Blue was present in 887 of 3720 recorded tetrads (=23.8%) between 2004-2017, Smith, 2018) we can be reasonably confident that *L. nycthemerus* is established across large parts of Yorkshire.

Acknowledgements

I am grateful for the Butterfly Monitoring Scheme (UK BMS) and Butterfly Conservation and their volunteer recorders for the butterfly records from Yorkshire upon which this research is based. This article has benefitted from the helpful comments of a reviewer.

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Field note: A Yorkshire first - *Listrodomus nychthemerus* (Hymenoptera: Ichneumonidae) in Saddleworth, VC63

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My garden contains three mature Holly trees *Ilex aquifolium* and also has large stands of mature Ivy *Hedera helix,* partly to help bees and hoverflies and other late-nectaring insects to feed on the flowers in autumn. This habitat is thus perfect for Holly Blue butterflies *Celastrina argiolus* as a food and breeding site. I saw the wasp on 31 August 2018 when counting how many Field Digger Wasps *Mellinus arvensis* were present this year (another regular garden breeder). I thought it a strange-looking *Mellinus* male but realised something was quite different and took some photographs (see front cover). I did not know then what it was but I was able to determine it from the photographs on the Facebook BWARS (Bees, Wasps and Ants Recording Scheme) site as the Ichneumon *Listrodomus nychthemerus*, which parasitises Holly Blue caterpillars. This insect is quite distinctive and its markings lend to accurate identification from sharp images.

Listrodomus nychthemerus lays its eggs in the growing larvae, which feed on Ivy flower buds. These continue through to pupation and the adult *Listrodomus* eventually emerges from that and the pupa dies. Holly Blues have been recorded at this elevated site for at least the last 4 years, all in September, so presumably are second brooded on the Ivy. Elsewhere in the nearby Oldham area (not Yorkshire!) they are found at lower levels earlier in the year, probably utilising Holly during their first brood. Even so, they are normally only seen as singletons or occasional sightings. Steve Smith in his 5 year survey 'The Butterflies of Oldham' (2013 on) mentions this and wondered when the next 'Holly Blue year' would come when they are seen more plentifully. That cyclical year appears to be 2018 as multiple sightings have become more common, from both personal observation and reports in the Sorby NHS Newsletter (October 2018). This may well be the reason that the parasitoid Ichneumon has been found. The wasp is linked with its food source (i.e. host - the larva of the butterfly) in terms of this cycle, and can build up and cause subsequent Holly Blue numbers to crash as so many larvae/pupae have been infected and died - then gradually build up again – and so on. It is also possible that the unusually hot weather of this summer has been kind to the butterfly, causing this cyclical explosion and that the ichneumon sighting has been coincidental.

Holly Blue has had a cyclical peak in 2018, so *Listrodomus nychthemerus* may also build up in response in the next couple of years, so it will be worth checking Ivy flower buds for further specimens in Yorkshire and elsewhere. It is possible that this ichneumon is under-recorded of course, and when reporting it to Bill Ely, the YNU parasitica recorder, he not only told me it is a Yorkshire first, but raises the Yorkshire ichneumon total to 1147, which is less than half the UK total, so plenty more to find.....

YNU Botanical Section VC64 report 2018

Phyl Abbott

The 2018 meeting was held in Bishop Wood, west of Selby, on 28 April. This is an old wood which has been partly planted with conifers for timber but most of it is still deciduous woodland. The spring flowers were at last appearing in this late season of 2018. The Celandines *Ficaria verna* were just past their best but still colourful and there were attractive patches of Primroses *Primula vulgaris*, Opposite-leaved Golden Saxifrage *Chrysosplenium oppositifolium* and masses of Bluebells *Hyacinthoides non-scripta:* all native plants. We were pleased to see a few orchids: Early Purple *Orchis mascula* and Southern Marsh *Dactylorhiza praetermissa*. Don Grant shared his knowledge of sedges with us and he was very pleased to find Elongated Sedge *Carex elongata,* which was known earlier only from Askham Bog. Don also introduced us to Yorkshire Blackberry *Rubus eboracensis*.

We were joined by Ben Scotting, a consultant Forester, who was able to give us interesting information on several of the trees. We had a pleasant walk in attractive woodland and the rain held off until we were in our cars on the way home. Good timing!

Other reports

A garden escape, Cabbage Palm *Cordyline australis* which was found by Wharfedale Naturalists' Society on 31 May in Burley House Field, Burley-in-Wharfedale, is new to VC64.

On 18 August Bradford Botany Group visited Swinsty Reservoir for a "Salix seminar saunter". Brian Byrne demonstrated all the willows and explained the evidence of the hybrids. New to the vice-county were *Salix alba* var. *caerulea*, *S. alba* var. *viteliana*, *S. aurita* x *phylicifolia* (*S. x ludificans*) and *S. cinerea* x *phylicifolia* (*S. x laurina*). The water level was low and there were carpets of Silverweed *Potentilla anserina,* Common Knotgrass *Polygonum aviculare* and Trifid Bur-marigold *Bidens tripartita*. The single plant of Sunflower *Helianthus annuus* was impressive even though it was still in bud. A dock found during the Bradford Botany Group's visit to Mickletown Ings was identified by Geoffrey Kitchener as *Rumex conglomeratus* x *R. palustris* (*R. x wirtgenii*). This is another plant new to VC64.

Field note: The Marsh Gentian in Yorkshire

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I have been trying to trace Marsh Gentian *Gentiana pneumonanthe,* a quite scarce species in Yorkshire, for some time. Having really given up hope, as I was going on holiday to Dorset, I contacted the VC9 BSBI recorder Robin Walls for guidance. Fortunately, he directed me to the one YNU member living in Dorset (John Newbould) who, together with a colleague, took me to Winfrith Heath where there are good numbers of the plant in the intermediate zone between wet heath and the drier *Erica tetralix* heath.

Meanwhile, John made enquiries about Skipwith Common National Nature Reserve through the North and East Yorkshire Data Centre, who supplied a number of grid references. Just one, by the Riccall Airfield Memorial, proved to have visible plants, with six flower spikes on 30 August 2018.

Previously I had searched near Clapham on Keasden Moor SSSI with no success (Abbott, 2005). According to the BSBI atlas, this plant had last been recorded in this area prior to 2000. However, following a site visit on 5 September this year, and a report by Craven botanist Dr Judith Allinson, on my fourth attempt, I was delighted to find one flowering plant.

Figure 1. Marsh Gentian *Gentiana pneumonanthe.* *J. Simmons*

Reference

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The Dark Bordered Beauty moth at Askham Bog at the end of the 19th Century

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The Dark Bordered Beauty moth *Epione vespertaria* (Lepidoptera: Geometridae) is a Red Data Book species (Shirt, 1987) currently thought to be restricted in England to a single site, Strensall Common c.10km north of York (Baker, 2012; Baker *et al.*, 2016). York has been well known nationally as a locality for the moth since the 19th Century (Porritt, 1883; Frost *et al.*, 2011; Baker, 2012). Prest's 1874 record (Anon, 1878) is the earliest published record I have located that mentions a specific site, although there are earlier publications about the moth from the York area (e.g. Prest, 1858; Birks, 1860; Wesley, 1872). York sites mentioned on specimen labels or in the published literature include Strensall and the adjacent locality of Sandburn, east of Strensall along the Malton Road (A64) (Baker, 2012; Frost *et al.*, 2011). Morris (1871) also mentions 'near Stockton Station and Stockton Common near York', which are immediately adjacent to Sandburn and Strensall Common. James (1919) mentions collecting it at 'Warthill', which is a village 4km to the south-east of Sandburn, but probably meant Warthill Station, which is what Stockton Station was renamed in 1872 and was the station-stop for naturalists visiting Sandburn (Anon, 1883-4). These areas are all adjacent and probably represent a single population of the moth. There are no other localities near York in the Yorkshire moth database (www.yorkshiremoths.info).

Figure 1. One of the Dark Bordered Beauty specimens, BMNH(E)1857272, collected from Askham Bog in 1893 by S. Walker. Reproduced under Creative Commons Attribution licence BY/4.0 from http://data.nhm.ac.uk/object/f957a9e0-de41-4517-aa16-a36a6211d256

Rothschild and Marren (1997, p.100), however, claim that Dark Bordered Beauty was found at Askham Bog, a very well-recorded Yorkshire Wildlife Trust reserve and Site of Special Scientific Interest immediately to the south-west of York: 'To Lepidopterists its greatest prize was the Dark Bordered Beauty moth'. When reading this statement for the first time recently, I assumed that there had been some confusion between Askham and Strensall. However, browsing the Natural History Museum, London (NHML) online collections for Dark Bordered Beauty specimens I encountered three labelled from Askham Bog (Table 1, Figure 1) (http://www.nhm.ac.uk/our-science/collections/entomology-collections.html, accessed 6 September 2018). All are females, from two years in the last decade of the 19th century. Two were collected in 1893 by 'S. Walker', Samuel Walker of York (e.g. Walker, 1883). Forty-two Dark Bordered Beauty specimens now in the NHML collection are attributed to Walker. Of these, 23 are labelled 'Sandburn', 17 'York', and two 'Askham Bog'. The Askham specimens are the earliest, the remainder being collected from 1896 to 1906. The other NHML specimen from Askham is from 1898 and has no collector details.

Subsequent searches on the Global Biodiversity Information Facility (GBIF, https://www.gbif.org/, accessed 9/11/2018), and The National Biodiversity Network Atlas (https://nbnatlas.org/) identified a further three records from Askham Bog, attributed to the Nottingham City Museums and Galleries Insect Collections Database. I contacted Sheila Wright, curator at Nottingham Natural History Museum, and VC56 moth recorder. She confirmed that the specimens are in the British Lepidoptera Collection of Nottingham Natural History Museum at Wollaton Hall, and are listed in Table 1. Two are male and one is female, all collected by 'R. Dutton', Robert Dutton of York (e.g. Dutton, 1891). Dutton and Walker were friends and often collected together with another York collector, William Hewett (e.g. Hewett, 1891).

Table 1: Dark Bordered Beauty specimens from the Natural History Museum, London (NHML), and Nottingham Natural History Museum (NNHM), Wollaton Hall, collected at Askham Bog.

Location	Catalogue number	Sex	Collection date	Collector name	Collection details
NHML	BMNH(E)185727	Female	1893	S. Walker	Cockayne-Kettlewell Collection BM 1947
NHML	BMNH(E)1857541	Female	1893	S. Walker	Hawkins bequest 1970
NHML	BMNH(E)1857419	Female	1898	-	-
NNHM	-	Male	1893	R. Dutton	-
NNHM	-	Male	1893	R. Dutton	-
NNHM	-	Female	1893	R. Dutton	-

I contacted Peter Marren to establish the source of the claim in Rothschild and Marren (*loc. cit.*). He said that his main source of information on the reserve had been the original Society for the Promotion of Nature Reserves (SPNR) site files, but otherwise he could not remember the source. There is no mention of Dark Bordered Beauty in the SPNR site files (https://www.wildlifetrusts.org/about-us/rothschilds-list#archive) so the source of the claim will likely remain lost.

Fitter and Smith (1979, Appendix 6) do not mention Dark Bordered Beauty in their list of Lepidoptera recorded from Askham Bog and the site is so frequently visited that it has doubtless long been extinct there and likely shortly after the above specimens were collected. Neither does Porritt mention the site for this moth in any of his lists (Frost *et al.*, 2011), nor do any subsequent reviews of Yorkshire Lepidoptera (Sutton and Beaumont, 1989; Beaumont, 2002). Fitter and Smith (1979, Appendix 3) do list the York host plant, Creeping Willow *Salix repens* as being continually present at Askham from 1900 until after 1970 in wet grassland in the margins of the Bog, so the presence of a breeding population of the moth at some time in the past is feasible. The presence of unambiguously labelled specimens would make the Walker and Dutton specimens a new VC64 record for the species, retrospective by 125 years.

The past presence of Dark Bordered Beauty at Askham Bog is interesting from a conservation perspective, as it illustrates how the moth's range in the York area has changed through time. It is also helpful because the Biodiversity Action Plan for this moth includes the aim to establish more populations of the moth (UK Biodiversity Group, 1999). Past locations, especially in the York area, are obviously interesting from this perspective, and Askham Bog is a site that could potentially be managed with such a species in mind.

Acknowledgements

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YNU Bryological Section report for 2017

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Excursions

Two sectional meetings were held in 2017 and are reported below. Nomenclature follows the current British Checklist and Census Catalogue (Hill *et al.*, 2008).

Spring meeting, Arkengarthdale (VC65), 6-7 May 2017

There are few recent bryophyte records from Arkengarthdale and our spring meeting in 2017 was an opportunity to remedy this. We gathered at Langthwaite on Saturday 6 May, in what had been an exceptionally dry spring. Water levels in the streams were low, and most habitats were very parched. Our route took us from Langthwaite in a south-easterly direction along the Arkle Beck, where we recorded ruderals and other common species on walls and by the track.

An early surprise on a semi-bare bank under the hedge by the track was an extensive patch of *Plagiothecium cavifolium*, looking remarkably like a *Scleropodium*. *P. cavifolium* can be a troublesome moss to separate from concave-leaved forms of other species of the genus but the material at Langthwaite was very distinctive and it was a first record for VC65. The banks of the Arkle Beck nearby had *Cinclidotus fontinaloides* and *Schistidium rivulare*, characteristically on rocks above summer water levels, and we noted *Homalia trichomanoides* and *Tortula subulata* in silty alluvium on tree bases. Epiphytes included *Cryphaea heteromalla*, *Metzgeria violacea*, *Orthotrichum stramineum* and *Sanionia uncinata*. From the Arkle Beck we followed the lane along the base of Booze Wood to the foot of Slei Gill. One stretch of the old wall by the lane had a strong population of *Barbilophozia barbata*, and *Ulota crispa* was found on a Sycamore, the latter in its new narrow sense after the segregation of *U. crispula* and *U. intermedia*.

Slei Gill was our main objective for the day. Largely treeless, it has extensive remains of old mine workings with short rabbit-grazed turf. *Brachythecium glareosum*, *Climacium dendroides*, *Homalothecium lutescens* and *Rhytidiadelphus triquetrus* were present in the turf in places. The bedrock is composed of Yoredale strata and is only weakly calcareous. Consequently, some of the strongly calcicolous rarities known from the Craven limestones were not found in the Gill but the rocks were sufficiently base-rich for *Anomodon viticulosus*, *Ditrichum gracile*, *Neckera crispa*, *Scapania aspera* and *Tritomaria quinquedentata*. A small population of *Encalypta vulgaris* was found on soil on a dry ledge. Although the capsules showed a tendency to become slightly ribbed with age, they completely lacked a peristome and are therefore best referred to as *E. vulgaris* rather than *E. rhaptocarpa*. One spot had an outcrop of chert and the nearby banks were acidic. *Scapania scandica* was among the bryophytes noted here. On the less sunny side of the Gill, facing WNW, some bands of exposed rock, which would clearly be wet under normal conditions, proved to be quite dry on the day. They supported *Amphidium mougeotii*, *Gymnostomum aeruginosum*, *Jungermannia atrovirens*, *Pohlia cruda* and *Preissia quadrata*. *Palustriella commutata* and *Jungermannia exsertifolia* subsp. *cordifolia* were present on the edges of the stream.

On Sunday 7 May, three participants (Tom Blockeel, Sue & Les Knight) extended the meeting with a visit to Crag Wood near Eskeleth, a little further up Arkengarthdale. Crag Wood is a bouldery oak/birch wood on a slope facing south-west. The boulders are siliceous gritstone, a different habitat from Slei Gill. *Scapania gracilis* and *Dicranum fuscescens* were common on the boulders while *Dicranum majus*, *Barbilophozia attenuata*, *Bazzania trilobata* and *Scapania umbrosa* were present in much smaller quantity. On one boulder there was a patch of the distinctive liverwort *Tritomaria exsectiformis*, with its rust-coloured gemmae. Outstanding, however, in the same habitat was the discovery of the small and elusive *Harpanthus scutatus*, only the second record for VC65. *H. scutatus* is a very rare liverwort in the Pennines but more widely distributed in western Britain. Also of interest was the moss *Leucobryum juniperoideum*, surprisingly not previously recorded from VC65 but doubtless overlooked in favour of the more familiar *L. glaucum*.

The banks of the Arkle Beck nearby provided some additions not seen by the beck near Langthwaite, notably *Orthotrichum rivulare* on a streamside boulder and *Porella cordaeana* on the base of Sycamores by the stream. There were several fine tufts of *Orthotrichum stramineum* on mature trees. A wet runnel in grassland nearby had some good patches of *Plagiomnium elatum*.

The number of bryophytes recorded was 124 at Langthwaite and Slei Gill (110 in tetrad NZ00B, 47 in NZ00G) and 82 at Crag Wood and surrounds (57 in tetrad NY90W, 49 in NY90X).

Autumn meeting, Skipwith Common (VC61), 14 October 2017

Skipwith Common has been visited by the YNU on many occasions and there is a long history of recording. For example, a comprehensive list of bryophytes was included by Watson (1932) in his ecological study of moorland bryophytes and lichens. However, many of the records made by earlier generations of bryologists have not been confirmed recently and this provided an incentive for a new visit in 2017. The group of five (Tom Blockeel, Jeremy Fraser, Nick Gaunt, Steven Heathcote, Mike Wilcox) started out from the car park on King Rudding Lane, where the areas of old tarmac and wartime concrete boosted the species tally with a number of weedy and ruderal bryophytes. Notable among these was the scarce *Didymodon icmadophilus*, growing in extensive sheets. This moss was previously known as *D. acutus* but it is now thought that the true *D. acutus* has a very restricted distribution in Britain and most of our material belongs to the closely related *D. icmadophilus*. There have been many new records of it recently from ruderal habitats, and it is unclear whether it has simply been overlooked or has spread into this habitat recently.

From King Rudding Lane our route took us eastwards towards the central area of the Common. The dry woodland east of the car park was rather poor in species but had several good patches of *Eurhynchium striatum*, and a single patch of *Frullania dilatata* was seen on oak. A ditch, perhaps receiving some slightly base-rich run-off, had *Bryum pseudotriquetrum* and *Riccardia chamedryfolia*. The first of the wetter tracts of heathland that we encountered initially produced only common heathland bryophytes, including *Aulacomnium palustre*, *Sphagnum fimbriatum* (which proved to be very frequent in the wetter areas throughout), *S. palustre* and *S. squarrosum*. Gradually we moved into the richer central areas, finding *Sphagnum fallax*, *S. inundatum* and *Straminergon stramineum*.

After lunch, we reached the part of the Common where there are several large ponds, and many interesting bryophytes were found in this area. The first of these was a hummock of *Polytrichum strictum*, closely followed by *Dicranella cerviculata* on wet peat, and the liverwort *Pellia neesiana* in marshy ground. The *Polytrichum* and *Dicranella* were last seen at Skipwith in 1932 while the *Pellia* is the first confirmed record for the vice-county. The ponds were bordered in places by a fringe of *Sphagnum* mosses, including much *S. squarrosum*, as well as *Warnstorfia fluitans* bearing abundant capsules. One pond had masses of *Sphagnum cuspidatum* in shallow waterlogged ground. Horseshoe Pond proved to be the richest area, with many of the species seen previously, but also several unexpected finds on pockets of bare disturbed peaty soil. These included two liverworts new to the Common and not recorded in VC61 since the early 20th Century, *Fossombronia wondraczekii* and the unique and fascinating *Blasia pusilla*, bearing its distinctive flask-like gemmae receptacles. A diversionary bonus at the edge of the pond was the rediscovery by Mike Wilcox of the Pillwort *Pilularia globulifera*, which had not been seen on the Common since the 1990s. On the eastern edge of the pond we added the hornwort *Anthoceros punctatus*, an exciting find as hornworts are very rare in Yorkshire and this is the first authenticated record of *A. punctatus* (as distinct from the closely related *A. agrestis*) in the county. Nearby was *Lophozia ventricosa*, another liverwort not seen at Skipwith since the early 20th Century, though common in the Yorkshire uplands. To the east and north of Horseshoe Pond there are tracts of birch woodland with occasional sallows. Of the areas that we visited

this was the richest for epiphytes, although still remarkably poor compared with most Yorkshire woodlands. Records included small amounts of *Ulota phyllantha*, *U. crispa* s.str. and *Metzgeria violacea*. Mike Wilcox found a curious *Riccardia* with slender gemmiferous branches on a fallen, rotten branch. The usual Riccardia on rotting wood is *R. palmata*, but Mike's plant did not have the usual growth form of that species and its identity is uncertain. North of this woodland we moved on to open, wet heathland with much Heather *Calluna vulgaris* and Cross-leaved Heath *Erica tetralix*, finding *Sphagnum papillosum* and *Odontoschisma sphagni*, a bog liverwort here at its only East Riding site. We had little time to examine this area and doubtless missed some species.

At the end of the afternoon, when the rest of the group had left, Tom Blockeel and Mike Wilcox had a little extra time to examine areas by the track leading back to the car park from north of the Common starting from SE659377. Almost immediately *Fossombronia foveolata* was found in abundance on bare patches of peaty soil in a shallow ditch. This is a nationally scarce liverwort last recorded on the Common in 1932 and with only one other recent record in the Yorkshire vice-counties. Further along the track, exposed sandy soil on a steep bank produced *Pogonatum urnigerum* and *P. aloides*, the former being yet another moss not recorded here since 1932.

The visit to the Common was a great success and we recorded 85 bryophytes in total. The one disappointing aspect was the poverty of the epiphytic flora, which contrasts strongly with the recovery of epiphytes in recent decades in other parts of the county. Nevertheless, the discovery within a few hours of eight bryophytes that were either new to the East Riding or had not been seen in the vice-county for more than 60 years certainly justified the decision to meet there. The Common is a large tract of land and only limited parts of it could be sampled during our visit. Surveys of other areas would surely increase the list of species still present.

The year's records

The number of records received in 2017 from each of the Watsonian vice-counties is shown below.

Vice-county	Records received
61	151
62	12
63	398
64	1369
65	412

The high number of records in VC64 is due once again to the efforts of Nick Gaunt and Gordon Haycock. However, the most remarkable record of the year – and indeed for many years – is the astonishing discovery by Johnny Turner of the moss *Daltonia splachnoides* near Hebden Bridge (VC63), the latest of many notable finds by Johnny in this area. *D. splachnoides* is the sole British member of its genus and it demands high humidity and mild temperatures. Consequently, it has a hyper-oceanic distribution. Until very recently its only British sites were in the far west of Scotland but since 2010 a few tufts have been found in South Wales. Johnny's record is the first from England. The Lake District would have been a more predictable place for the first

English record (and perhaps it occurs there undetected). It is primarily an epiphytic moss but it occasionally colonises rock surfaces. This pattern is evident at Hebden Bridge. At Johnny's original site (Nutclough) he found it on the trunk of a Sycamore tree, on an old log and on several small gritstone boulders. Other than being in a sheltered clough, the habitat was unexceptional and subsequently Johnny and I found it further to the east, on a tree in Ogden Clough. Later Johnny found it at a third site, in Colden Clough, so it appears to be well established in the area. It can be compared with the liverwort *Colura calyptrifolia* and the moss *Ulota calvescens*, two other oceanic bryophytes that have only recently been discovered in the South Pennines. But *Daltonia* is a more extreme case and it will be interesting to see if it survives the parched summer of 2018. *Colura calyptrifolia* itself has continued to extend its range. Its discovery at Guisecliffe in Nidderdale is the first Dales record on the eastern watershed of the Pennines.

Of other notable finds in 2017, Steven Heathcote's discovery of *Abietinella abietina* on the Magnesian Limestone at Ledsham Bank is particularly pleasing. This moss is widely distributed but scarce and declining on the chalk of southern England, but is a great rarity in the north of England and Scotland. In Yorkshire it once occurred in scattered localities on the Magnesian Limestone but, strangely, was never recorded on the chalk. It is a moss of dry, open calcareous ground and thin turf, and has been lost from almost all of its former sites from destruction of this habitat in the lowlands. The only other recent record from any of the Yorkshire vice-counties is at Burton Leonard Lime Quarries. Another exciting record by Steven is that of a 'balloonwort' at North Cliff in VC61. Balloonworts are small but highly distinctive liverworts of the genus *Sphaerocarpos*. Steven's plant occurred in small quantity and, unfortunately, could not be named to species because mature spores were not present. All previous records of *Sphaerocarpos* from Yorkshire belong to *S. michelii*, so this is likely to be the identity of the new find. *S. michelii* formerly occurred at scattered sites in VC61 and VC62, mainly in stubble fields, but has almost disappeared now because of more intensive cultivation and the lack of over-wintered stubble.

Ditrichum plumbicola s one of a small number of British bryophytes that are tolerant of heavy metals. It is known only from old lead-mine sites and is consequently very sparsely distributed. It is further limited by an apparent intolerance of calcareous mine-waste. In spite of the former importance of lead-mining in the Yorkshire Dales, the first Yorkshire record did not occur until 2009, at Swinner Gill in Swaledale. A further site was added at Hebden Beck near Grassington in 2011 and we now have another new locality at Hungry Hushes in Swaledale, found by Sharon Pilkington in 2016. *D. plumbicola* is a tiny moss that is difficult to locate in the field and it is doubtless under-recorded but certainly rare and with an uncertain future, as its substrate is no longer being re-created.

The list below provide details of these and other selected records, including all new vice-county records and updates to the national Census Catalogue (identified by an asterisk). The vice-county is given in brackets before each individual record.

Abietinella abietina* var. *abietina: (64) SE459298 & SE46002997 Ledsham Bank Nature Reserve, S.J. Heathcote, 26 April & 27 October 2017.

Anthoceros punctatus: (61*) SE66203716 Skipwith Common, T.L. Blockeel, YNU meeting, 14 October 2017.

Bazzania trilobata: (64) SE16776351 Guisecliff Wood, Nidderdale, P.N. Gaunt, T.L. Blockeel & M. Adamson, 8 March 2017. This is a characteristic liverwort of old woodland on base-poor soils, rather scarce in Yorkshire, occasionally persisting in rocky hollows on moorland.

Blasia pusilla: (61*) SE66163718 on moist peaty soil on animal track near edge of pond, Skipwith Common, M. Wilcox, YNU meeting, 14 October 2017.

Brachythecium glareosum: (64) SE33215820 soil, Nidd Gorge, P.N. Gaunt, 24 April 2017. A rather scarce moss of open calcareous habitats.

Bryoerythrophyllum ferruginascens: (65) NY9803 Arkengarthdale: Hungry Hushes, S.L. Pilkington, S. Knight & L. Knight, 17 October 2016. The natural habitat of this moss is on base-rich rock ledges but it is also a successful colonist of disturbed ground, notably on old mine-workings (as in this case) but sometimes also by tracks and roadsides.

Calypogeia integristipula: (64) SE16766351 Guisecliff Wood, Nidderdale, P.N. Gaunt, T.L. Blockeel & M. Adamson, 8 March 2017. A rare but possibly overlooked liverwort that typically occurs on sandstone rock faces, less often on sandy and peaty banks.

Cephalozia connivens: (63) SE72681541 amongst *Sphagnum palustre* hummocks, Thorne Moors, Southern Canals, S.J. Heathcote, 8 December 2017. See comments under *Mylia anomala*.

Colura calyptrifolia: (64) SE16956379 on birch, Guisecliff Wood, Nidderdale, P.N. Gaunt, T.L. Blockeel & M. Adamson, 8 March 2017. As noted in previous annual reports, *Colura* has dramatically extended its range in recent years. This is the first record in the Dales on the east of the Pennine watershed.

Daltonia splachnoides: (63*) SD99722763 on log in woodland by old mill pond, Nutclough, Hebden Bridge, J. Turner, 18 February 2017; (63) SE0595631382 on Sycamore, Ogden Clough, T.L. Blockeel & J. Turner, 3 May 2017.

Didymodon ferrugineus: (63*) SD979230 on calcareous gritstone wall, Withens Clough Reservoir, J. Turner, 20 January 2017. An unusual occurrence as this moss is normally found in open habitats on limestone and chalk.

Didymodon umbrosus: (62*) SE604513 bridge base, park opposite Clifford's Tower, York, S.D.S. Bosanquet, 7 March 2017. This is thought to be an introduced moss but its distribution is sporadic; its habitat in York, on moist stonework/brickwork, is typical.

Ditrichum plumbicola: (65) NY9841402832 on near-unvegetated lead mine spoil, Hungry Hushes, Arkengarthdale, S.L. Pilkington, S. Knight & L. Knight, 17 October 2016.

Entodon concinnus: (64) SE08746237 Humberstone Bank Farm, G. Haycock, 13 March 2017; (64) SE11386384 Greenhow Hill, P.N. Gaunt, 9 July 2017; (64) SE46002997 Ledsham Bank NR, S.J. Heathcote, 27 October 2017. A scarce moss of open calcareous habitats but widely distributed in the limestone Dales. However, there are very few records on the Magnesian Limestone.

Fissidens exilis: (63) SE5517 soil mound, Birdsprings Wood, Womersley, S.J. Heathcote, 4 March 2017. A tiny moss, easily overlooked, with few records in VC63.

Fossombronia foveolata: (61*) SE65743768 abundant on peaty soil over several metres of ditch, Skipwith Common, T.L. Blockeel & M. Wilcox, YNU meeting, 14 October 2017.

Fossombronia wondraczekii: (61*) SE66163714 on moist peaty soil on animal track near edge of pond, Skipwith Common, T.L. Blockeel, YNU meeting, 14 October 2017.

Kurzia trichoclados: (64) SE16716346 Guisecliff Wood, Nidderdale, P.N. Gaunt, T.L. Blockeel & M. Adamson, 8 March 2017. A species of peaty soil, often among rocks, but not easy to identify as its separation from related species requires careful examination of the inflorescences. Female inflorescences were present in this specimen.

Leptodontium flexifolium: (65) NY986028 cracks in rock-face, Hungry Hushes, Arkengarthdale, S.L. Pilkington, S. Knight & L. Knight, 17 October 2016. A colonist of open peaty soil, often over rocks on moorland.

Leucobryum juniperoideum: (65*) NY994039 Arkengarthdale, near Eskeleth, T.L. Blockeel & S. Knight, 7 May 2017. Although this moss has been recognised as separate from *L. glaucum* for many years, there are still few records of it in the Yorkshire vice-counties. It seems to have a narrower habitat range than *L. glaucum*, mostly occurring in woodland.

Loeskeobryum brevirostre: (65) NY897009 Keld, S.L. Pilkington, S. Knight & L. Knight, 18 October 2016. A woodland moss, rather rare in Yorkshire and known mainly from the Dales.

Lophozia ventricosa: (61*) SE66193718 on moist peaty soil near edge of pond, Skipwith Common (area around Horseshoe Pond), T.L. Blockeel, YNU meeting, 14 October 2017.

Microbryum davallianum: (64) SD87567377 Dawson Close, above Pen-y-ghent Gill, M. Wilcox, 11 November 2017. Most records of this small colonist of bare soil are from the lowlands.

Microbryum floerkeanum: (61) SE91723706 arable field, North Newbald, S.J. Heathcote & E.L. Cooke, 1 April 2017; (63) SE62351872 Crow Croft Bridge, Pollington, S.J. Heathcote, 11 November 2017. One of our tiniest mosses and difficult to find, occurring on bare soil, mostly in arable fields.

Mylia anomala: (63) SE7250715246 old peat cuttings, Thorne Moors, T.L. Blockeel, 8 December 2017. This is one of a number of liverworts that occur on bare peat and *Sphagnum* in bogs. It is soon lost when bogs are degraded or destroyed, so its presence at Thorne Moors is a promising sign of recovery of the bog flora. The records of *Cephalozia connivens* and *Odontoschisma sphagni* also fall into this category.

Odontoschisma denudatum: (63*) SD98162781 on horizontal rotting tree trunk with *Nowellia curvifolia*, Colden Clough, J. Turner, 21 September 2017. Another interesting find from the Hebden Bridge area. *O. denudatum* occurs both on peat and on rotting wood, but there are surprisingly few records in the Yorkshire vice-counties.

Odontoschisma sphagni: (63) SE72681541 amongst *Sphagnum palustre* hummocks, Thorne Moors, Southern Canals, S.J. Heathcote, 8 December 2017. See comments under *Mylia anomala*.

Pellia neesiana: (61*) SE66053723 Skipwith Common, S.J. Heathcote, YNU meeting, 14 October 2017.

Plagiomnium elatum: (61) SE91833712 North Newbald Becksies Nature Reserve, S.J. Heathcote & E.L. Cooke, 1 April 2017. A new site for this wetland moss, which is very rare in the East Riding.

Plagiothecium cavifolium: (65*) NZ00840215 on sheltered earthy bank by track near stream, Langthwaite, Arkengarthdale, T.L. Blockeel, YNU meeting, 6 May 2017.

Pogonatum urnigerum: (61*) SE65443750 on bare sandy soil on steep bank of ditch, Skipwith Common, T.L. Blockeel & M. Wilcox, YNU meeting, 14 October 2017.

Pohlia cruda: (63) SE0531 Ogden Clough, T.L. Blockeel & J. Turner, 3 May 2017. Although it is not a strong calcicole, this moss is more common in the limestone Dales than on the gritstone. It has only a few scattered sites in VC63.

Polytrichum strictum: (61*) SE65983722 forming hummock on lowland heath, Skipwith Common, P.N. Gaunt, YNU meeting, 14 October 2017; (61) SE8624036945 forming mounds amongst *Calluna* and *Eriophorum* vegetation, Northcliffe Wood Nature Reserve, S.J. Heathcote, 1 November 2017. These are apparently the first East Riding records since 1932.

Racomitrium aquaticum: (63) SD967282 on grit boulder by stream, Jack Bridge, Colden Clough, J. Turner, 21 September 2017. A rare moss in the South Pennines; this is only the second record for VC63.

Rhodobryum roseum: (65) NY98910333 Arkengarthdale: Hungry Hushes, S.L. Pilkington, S. Knight & L. Knight, 17 October 2016. This distinctive moss of grassland and open woodland appears to be in decline, especially from the loss and deterioration of natural grasslands. It rarely produces spore capsules but spreads in its immediate environment by underground 'stolons'. Long-distance colonisation seems to be rare.

Riccardia palmata: (65) NY8963300920 smothering rotten log by path, Keld, S.L. Pilkington, S. Knight & L. Knight, 18 October 2016. A characteristic liverwort of rotten wood and increasing in the Yorkshire vice-counties.

Schistidium platyphyllum: (62*) SE608521 concrete bridge parapet, Layerthorpe, York, S.D.S. Bosanquet, 7 March 2017. A subaquatic moss more usually found on limestone by rocky upland streams.

Seligeria patula: (64*) SD858735 on wet limestone rocks on bank of gill, Pen-y-ghent Gill, T.L. Blockeel & J. Turner, 6 September 2017. *Seligeria trifaria* s.lat has long been known from this locality, but the presence of capsules in the latest sample showed that it belongs to the small-spored segregate *S. patula*, as indeed does all fertile material checked from the Pennines to date.

Sphagnum cuspidatum: (61) SE86223695 Northcliffe Wood NR (heathland area), S.J. Heathcote, 1 November 2017. A new East Riding site for this bog-moss.

Sphagnum magellanicum: (64) SD8581 Nethergill Farm, R. Snowden, 1 February 2017 and at SD85998110 and SD85998122, G. Haycock, 13 July 2017. There are surprisingly few records of this distinctive wine-red *Sphagnum* in Yorkshire. It is mostly confined to relatively intact bogs.

Syntrichia papillosa: (63*) SE067255 on Sycamore trunk, Highroyd Wells Lane, Halifax, J. Turner, 30 January 2017. An epiphytic moss that has been slow to spread following reductions in SO_2 pollution, now present in all five of the Yorkshire vice-counties.

Tortula modica: (61) SE86003699 North Cliff, S.J. Heathcote, 1 November 2017; (64) SD85597324 Green Lane, Giants Grave, M. Wilcox, 11 November 2017. This moss is easily overlooked as *T. truncata* and may be under-recorded but there are very few records in the East Riding and in the upland areas of the Dales.

Tritomaria exsectiformis: (64) SE16986387 Guisecliff Wood, Nidderdale, P.N. Gaunt, T.L. Blockeel & M. Adamson, 8 March 2017. An infrequent liverwort, typically occurring in the Pennines on the side of Millstone Grit boulders.

Ulota calvescens: (63) SE06233115 on Sycamore, Ogden Clough, T.L. Blockeel & J. Turner, 3 May 2017; (64) SE17156324 on Rowan, Guisecliff Wood, Nidderdale, P.N. Gaunt, T.L. Blockeel & M. Adamson, 8 March 2017.

Ulota crispa sensu stricto: (61*) SE662372 sparse on *Salix*, Skipwith Common, T.L. Blockeel, YNU meeting, 14 October 2017; (63*) SE17220263 Dunford Bridge, T.L. Blockeel, 19 August 2017; (65*) NY9904 Arkengarthdale, near Eskeleth, T.L. Blockeel & S. Knight, 7 May 2017; (65) NZ01200202 on Sycamore, Slei Gill, Arkengarthdale, T.L. Blockeel, YNU meeting, 6 May 2017. These records are of the species in its new narrowly defined sense (Blockeel, 2017). Even after the separation of *U. crispula* and *U. intermedia*, it remains a common epiphyte.

Ulota intermedia: (63*) SE16100240 on *Salix*, Dunford Bridge, T.L. Blockeel, 19 August 2017. This is a segregate of the *U. crispa* group. Its distribution is still unclear, but it appears to be less common than *U. crispa* s.str.

Weissia longifolia* var. *angustifolia: (61) SE91464347 Kiplingcotes Chalk Pit Nature Reserve, S.J. Heathcote, 1 November 2017. This is the first East Riding record for half a century.

Thanks are due to all the contributors of records.

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Distribution of Giant Hogweed in Yorkshire and its effects on ecosystems

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Introduction

Giant Hogweed (or Cartwheel Flower) *Heracleum mantegazzianum,* of the family Apiaceae, was introduced to the United Kingdom in 1893 as a garden novelty from the Caucasus Mountains by Victorian plant collectors (Pysek *et al*., 2007). It is the biggest herbaceous plant in Britain, a poisonous invasive weed which can cause third-degree burns if touched. It is spread by wind and successfully establishes when seeds (1500 seeds per flower head) fall into rivers and are carried downstream before settling in muddy banks. It can grow up to 5m tall with a herbaceous stem 5-10cm in diameter (Fig.2 p189). It is a self-fertilising biennial plant with white flowers, reproducing only once in its lifetime. Booy & Wade (2007) report that this plant does not reproduce vegetatively but relies exclusively on reproduction by seed. It grows in gardens, woodlands, along riversides and on heathlands.

Stem and leaf stalks are hollow and covered with purple spots and coarse hairs. It has a compound leaf which is deeply grooved and can span 1m across. It produces umbels of white flowers in June and July from which develop large, flat, oval seed heads. The Non-native Species Secretariat website has information regarding Giant Hogweed (NNSS, 2011), as does the Royal Horticultural Society (RHS, 2018). The plant is found scattered throughout the British Isles, reaching the north of Scotland. This paper highlights the current distribution of Giant Hogweed in Yorkshire, the problems it causes and approaches in Yorkshire to ameliorating these problems.

Current distribution status in Yorkshire

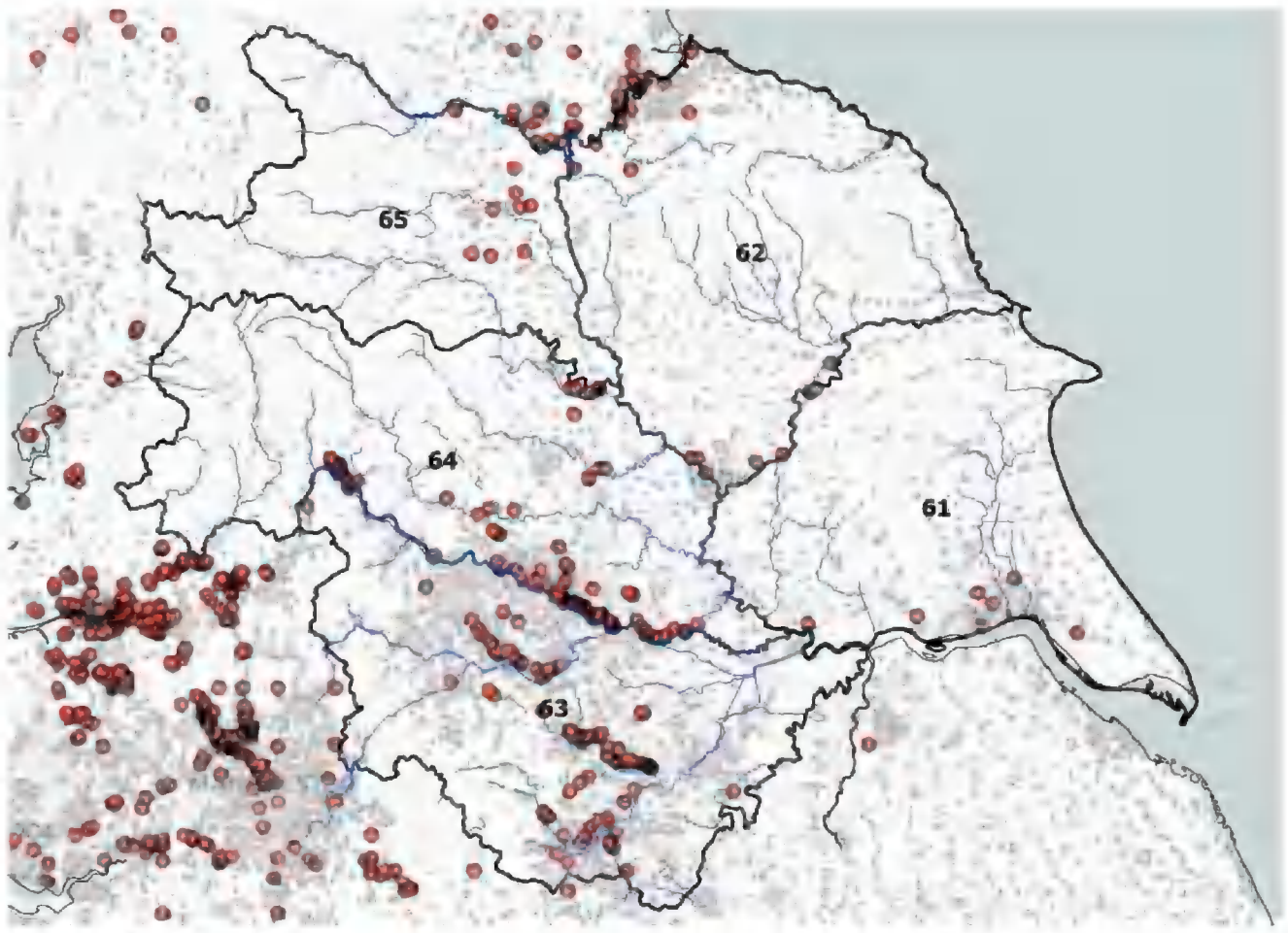

Figure 1. Records (brown circles) for Giant Hogweed in the five Vice Counties of Yorkshire from 2010 to the present (Source: NBN Atlas; accessible at: https://nbnatlas.org/). Settlements/ urban areas in light grey, major rivers and canals in blue (Strategi® [SHAPE geospatial data], Scale 1:250000, Tiles: GB, Updated: 17 November 2015, Ordnance Survey (GB), Using: EDINA Digimap Ordnance Survey Service, <http://digimap.edina.ac.uk>, Downloaded: 2018-07-24 18:19:49.71)

There is a close association of Giant Hogweed with river valleys, eg. River Tees along the northern boundary of Yorkshire, the River Aire corridor between VCs 63 and 64 and along the Rivers Dearne and Don in VC63 (see Figure 1). In addition, specific warnings in the press have been given for the plant along the River Aire (Ross, 2015; Tate 2015). The plant is particularly troublesome in such riparian areas and in urban sites where it has escaped from plantings (Plant Pest Risk Assessment, Oregon Department of Agriculture, 2013; Pergl *et al*., 2012). It is a nuisance in parks and natural areas where it often grows at high densities, prompting active control projects in many places where it is invasive. According to studies by Pergl *et al*. (*loc. cit.*) it was concluded that persistence rates of Giant Hogweed differ with respect to habitat type and are highest in meadows, forest margins and outside the urban areas.

Problems Caused

Giant Hogweed is "Britain's most dangerous plant" and creates havoc as it spreads in the hot weather in summer (Simons, 2017). Health risks, habitat and biodiversity loss, river bank erosion, impacts on amenity and local economy, health and safety costs and delays to development are the consequences of its widespread distribution. It has been listed as invasive (schedule 9 section 14) under the Wildlife & Countryside Act (1981). The effects of its spreading across the British Isles were potentially so profound that the group 'Genesis' predicted its dangers in their song *The Return of the Giant Hogweed* released in 1971! It is one of the main causes of phytophotodermatitis due to the presence of furanocoumarins (toxic chemicals)

in its sap (Drever & Hunter, 1970; Neill, 2009). Skin exposed to its sap becomes sensitive to UV light, causing weeping blisters, black/purplish scars and red colouring, along with itching and inflammation. Halfnight (2010) reported that chemicals in its sap are carcinogenic and teratogenic (could cause birth defects). It can cause temporary blindness, large painful blisters and permanent scarring.

It out-competes native plants, reducing the amount of suitable habitat available for insects, birds and mammals. Due to its density, footpaths can be rendered unusable by the presence of this plant. It usually dies back during the winters leaving bare ground that increases the chances of soil erosion, especially on riverbanks (Fig.2).

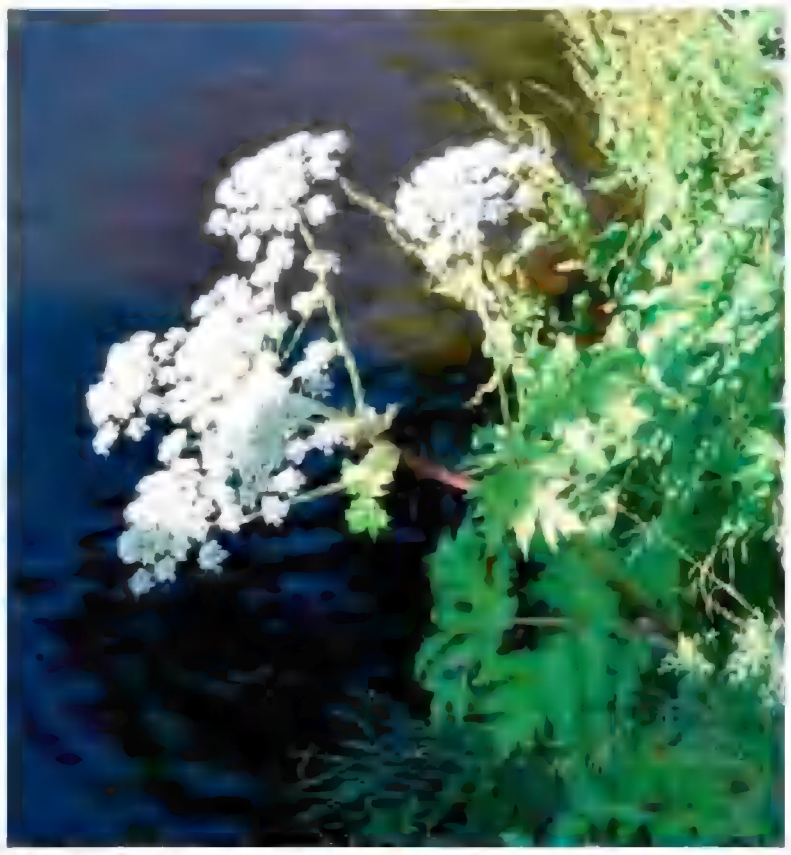

Figure 2. Giant Hogweed *Heracleum mantegazzianum* growing on a riverbank. J.Brar

Allelopathic effects, i.e. chemically mediated plant-plant interactions, are poorly studied for this plant. Production of bioactive secondary metabolites by Giant Hogweed could have allelopathic effects on the germination of native plants. Wille *et al.* (2013) demonstrated that germination was reduced in Stinging Nettle *Urtica dioica* and Annual Meadow Grass *Poa trivialis* on invaded soil. Despite high concentrations of potentially allelopathic furanocoumarins in *H. mantegazzianum*, there is only limited evidence that seeds or soil from hogweed stands have negative effects on germination of co-occuring native herbs. In future, some allelopathic plants may be identified which, when grown near this weed, could inhibit its growth, but far more research is needed.

Control Measures

Many measures have been initiated to control the spread of this invasive weed. The Plant Tracker App (https://www.planttracker.org.uk/) has been developed by the Environment Agency and other government agencies so that members of the public can record sightings of this and other invasive non-native plants. Plant Tracker sightings have already been helpful in the removal of local outbreaks of Himalayan Balsam *Impatiens glandulifera* and Giant Hogweed in the Thames area, and also the Floating Pennywort *Hydrocotyle ranunculoides* in the Midlands. The aim of this application is to increase public awareness by allowing people to make a positive contribution to the issue.

Appropriate control measures include the spraying of herbicides (Glyphosate, Triclopyr) either manually or by using drone technology. The University of Edinburgh employed a drone to identify and estimate the area covered by the plant. The University's Vulcan Octocopter was used to collect the data with two flights required to cover an 18ha brownfield site near Stirling (Poole, 2015). Giant Hogweed can be controlled by clearing the sites manually and also by biocontrol using sheep, pigs and cattle (Andersen & Calov, 1996).

Response to Giant Hogweed in Yorkshire

Many projects have been started in the Aire Valley between Kirkstall, Leeds and Bingley to ensure the health and safety of the public. A project near Bradford, including Apperley Bridge, was set up as Giant Hogweed was found to be dominating the area and pushing out native plants. Denso Marstons Nature Reserve at Shipley, Buck Mill at Thackley and Rodley Nature Reserve on the outskirts of Leeds were also in the list of areas where projects were initiated as a part of control operations. The Yorkshire Invasive Species Forum (Yorkshire Wildlife Trust, 2012) and the Living Went Project (Yorkshire Wildlife Trust, 2014) were undertaken to restore natural habitat, provide direct and indirect benefits to wildlife and, in turn, impact positively on local people. These organisations are also working actively to prevent the possibility of new plants of Giant Hogweed setting seeds. Due to the prevalence of Giant Hogweed in Yorkshire, the Sheffield-based 'River Stewardship Company' (http://www.the-rsc.co.uk/) was contracted to remove it from the River Aire in Leeds (Yorkshire Voice, 2015). A charity organisation 'River Holme Connections', founded to make the River Holme a better place, recently issued a warning about sightings of Giant Hogweed around Huddersfield (Hirst, 2018).

Conclusions

Innumerable measures have been initiated in recent times for the control of this invasive plant. The use of drones has great potential for both mapping and spraying affected areas. More research on plants producing allelochemicals that can negatively affect Giant Hogweed needs to be carried out. Ultimately, establishing a central repository of information and the involvement of local communities through awareness campaigns at a large scale, encouraging people to report incidences of Giant Hogweed to their local authorities or relevant management bodies, will be key to better control of this noxious weed.

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Albert Henderson (1930-2018): an appreciation

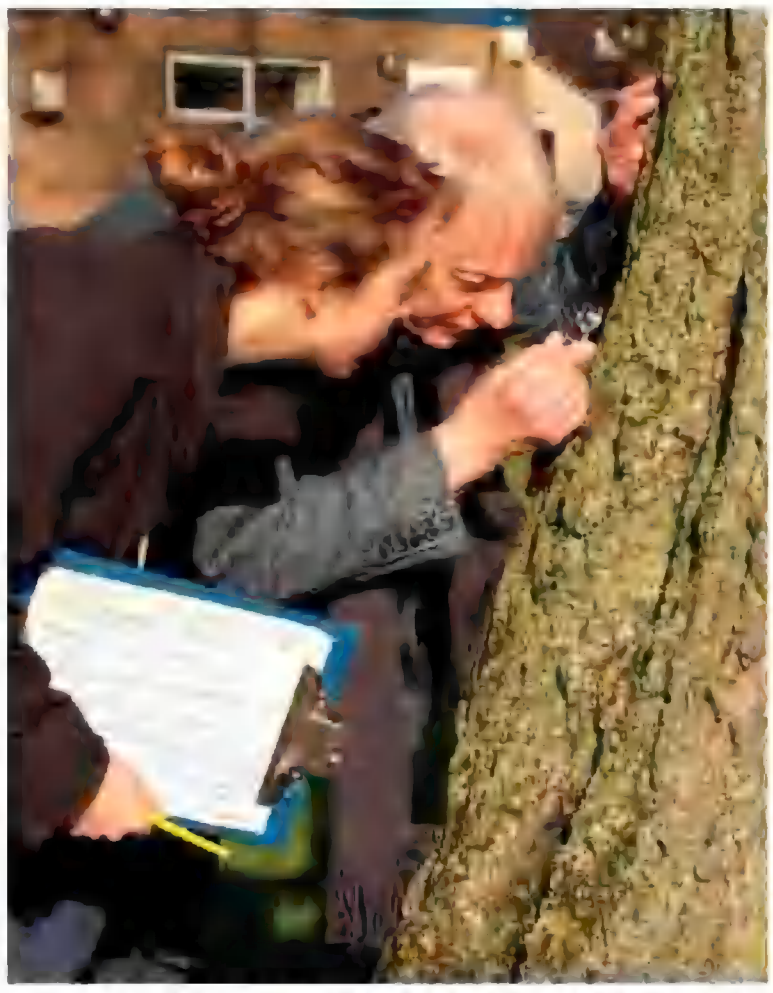
It is with great sadness that I record the death of Albert Henderson, one of the most stalwart supporters of the Yorkshire Naturalists' Union for more than 40 years. Born and bred in Yorkshire and schooled in Leeds, where his 'polymath leanings' were encouraged, he passed his examinations for entry to Christ's College Cambridge. With this certainty ahead of him, he completed his national service with the RAF, mainly in Egypt and Iraq, before embarking on a liberal education, undertaking a Double Tripos in English Literature and in Archaeology and Anthropology. However, as we came to expect of him, he also attended as many lectures 'outside his subject area as inside them'.

On graduation he taught for some years in 'specialist' and language schools in London and on the South Coast, after which he worked for the Forestry Commission at Highclere, Berkshire, before moving back to Yorkshire, finding 'a happy and fulfilling existence' at the Experimental Gardens of the Botany Department of Leeds University. It was here that I first met Albert – not heavily engaged in manual activity but reading the *Times Literary Supplement* – he questioned me on my interest in lichens and in consequence became hooked on what was to become a major part of his life.

About this time he joined the YNU and very soon became deeply involved in all aspects of its work, as testified by the numerous contributions he made to its meetings and publications. Not only was he a member of its Executive but also became co-editor (with Adrian Norris and Douglas Richardson) of its *Bulletin* in 1984 and editor from 1994 until 2010, as well as a member of the Editorial Board of *The Naturalist* since 2011. He contributed a wealth and diversity of topics in the *Bulletin*, not only on lichens (e.g. dyestuffs 1984-86, etymology 1986-89, aesthetics 1987-90), but he also authored or co-authored papers on such subjects as books, archives, habitats, naturalists, fungi, Bracken and stoneworts, and provided book reviews. He was also a regular attendee at many YNU field meetings, being responsible for some of the lichenological components of the published reports in *The Naturalist*, and on 17 occasions compiling or co-compiling the whole report between 1977 and 2009. He was the author or co-author of numerous lichenological papers in *The Naturalist* relating to Spurn Point 1994, the West Yorkshire conurbation 1984, 1991, 1994, 1999 and 2005, Harewood 1976, the Clean Air Act 1977, Halifax 1983, Otley 1986, Sandstede's *Cladonia* Exsiccata 1978 and *Acarospora umbilicata* and *Polysporina dubia* 1986.

In 1995 he was elected President of the YNU and his memorable address in 1996 entitled 'From coney to rabbit: the story of a managed coloniser' and published in *The Naturalist* 122: 101-121 (1997) reflected his breadth of knowledge and interests. He was also a devoted member of the Leeds Naturalists' Club & Scientific Association and contributed to its *Newsletter,* mainly between 1980 and 1985, on such subjects as Coney Garth, Hetchell Wood, Meanwood Valley, acid rain, Bracken and lichens. A short but useful paper on lichen reinvasion in the Halifax area (1993-1995) appeared in *The Natural History of Calderdale* 5: 7-9 (1995). Albert, with colleagues from the YNU, also became involved in training the next generation of naturalists through special 1-day workshops for University of Leeds students.

At a national level he joined the British Lichen Society, attending field and indoor meetings whenever possible, and on two occasions lectured at its AGM on 'Lichens – urban denizens' in 1988 and on 'Lichens on unusual man-made substrata' in 1989. Under the pseudonym 'Grapevine' he contributed a regular feature in 12 issues of the BLS *Bulletin* from 1980 until 1985. He also co-authored two papers in *The Lichenologist* (13: 249-251, 1981; 18: 199-200, 1986), but he will be mainly remembered for the remarkable and painstaking work he undertook first as co-compiler with David Hawksworth of numbers 9 and 10 (1978 & 1979) and later as sole compiler of numbers 11 to 49 (1979-2000) of 'Literature on air pollution and lichens' in *The Lichenologist*, which gained him an international readership and reputation.



Albert demonstrating urban lichens to Sarah West, another YNU executive member, in 2011

Despite serious medical problems in recent years, necessitating frequent periods of hospitalisation and home care, which limited Albert's active participation in his chosen studies, he still retained a lively interest in the work of others and was always willing to work tirelessly on their behalf to track down interesting and useful nuggets of information to support their studies. His memory will be perpetuated through the considerable correspondence and documentary evidence he amassed on a wide range of interesting subjects which is currently being assembled for various archives, including those of the YNU. In a word, Albert was unique, the likes of whom we were privileged to know – his expertise and friendship will be missed by all who knew him.

Mark R. D. Seaward

Risso's Dolphin: A new Yorkshire record

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The Risso's Dolphin *Grampus griseus* (Cuvier, 1812), closely related to the Pilot Whales *Globicephala,* is a large animal measuring up to 3.8 metres in length with a large and prominent dorsal fin and a blunt, slightly bulbous head. It frequently exhibits complex white scarring on its dark grey skin, these unique patterns enabling individuals to be identified and thus allowing migration and population monitoring (Reid *et al.,* 2003; Evans, 2008).

It is primarily a warm-water dolphin with populations in the Mediterranean, along the Iberian coast north to Biscay and along the continental shelf where it favours relatively shallow waters of 50-100m depth. There are concentrations of sightings around the British Isles off southwestern Ireland and around the Outer Hebrides and the northern Isles. Here it often occurs in company with other cetaceans, including White-sided Dolphins *Lagenorhynchus acutus* and White-beaked Dolphins *L. albirostris*. It reaches its northern limits in Norwegian waters (Reid *et al., loc. cit.*; Evans, *loc. cit.*). Smaller groups also seasonally visit the southwestern approaches, west Wales and the Irish Sea. Some of those ascending to northern Scotland have entered the northern North Sea, the JNCC Distribution map based on data from 1990-2002 showing occurrences off the mouth of the Moray Firth and down the Aberdeenshire coast (Reid *et al., loc. cit.*; Evans, *loc. cit.*).

In recent years individuals and small groups reaching the northern North Sea have ventured further south, being seen off the coasts of Northumberland and Durham. The first observation from the English east coast was in 1996 when four animals were seen breaching near the Crumstone (NU23) in the Farne Islands (Foster-Smith, 2000). Subsequent Farne Islands sightings have included four in September 2006, two adults and a calf in a mixed pod with White-beaked Dolphins in late September 2007, three animals in late September 2009 and others in July 2011 (Kitching, 2012) and 2014 [Website notes 1 and 2].

Further south, one was sighted off Cullercoats (NZ37) and a male stranded in Cullercoats Bay in June 2007. Three were seen off Blyth (NZ38) in October 2007 and six were in Alnmouth Bay (NU21) in May 2008 (Kitching, *loc. cit.*). There have also been sightings off Whitburn (NZ46) in June, August and September 2007, June and July 2009 and August 2010 (Kitching, *loc. cit.*). In 2004 a Newcastle University survey of the skippers of fishing craft working the Northumbrian coast indicated that Risso's Dolphins accounted for 12% of cetacean sightings by local fishermen (Stockhill, 2006).

During the summer of 2018, specimens entering the northern North Sea were monitored off the Caithness and Sutherland coasts, observers reporting the following sightings to the Seawatch Foundation [Website note 2]. Four were off Holborn Head (ND17) on 30 June (Rob Hughes); six off Strathy Point (NC86) on 3 August (WDC Shorewatch); four off Duncansby Head (ND47) on 11 August (Colin Bird); five off Trinkie Wick (ND34) on 19 August (Colin Bird); fifteen off Swiney, Lybster (ND23) on 22 August (Colin Bird); and seven off Scafskerry (ND27) on 7 September (Paul Castle).

Further south at least one specimen seems to have been present off the Northumbrian and Cleveland coast for most of the summer of 2018, with sightings in July off Howick (NU25), Newbiggin-by-the-sea (NZ38) and St Mary's Isle (NZ37) [Website note 1], one seen and photographed from the tourist boat *Serenity II* off Seahouses (NU23) on 29 August [Website note 1] and finally a single specimen was seen breaching and slowly heading south off Saltburn-by-the-Sea (NZ62) at 08:00hrs on 23 September by Damien Money [Website notes 2 & 3]. This latter sighting represented the first Yorkshire (VC62) record and seems to demonstrate a distributional trend which could be linked to progressively warming sea temperatures.

During the early morning (pre 09:35hrs) of 12 November 2018 a resident of the linear village of Skelton, overlooking the east bank of the Yorkshire Ouse, noticed from her bedroom window a dolphin in the river near the Goole railway swing bridge (SE7624). She contacted her neighbours Gill and Phil Dixon of Riverside Farm who were successful in taking a series of photographs (see *Hull Daily Mail* 12.xi.2018; *Goole Times* 15.xi.2018 and Website note 4). The Dixons contacted the Coastguard service who in turn contacted the British Divers Marine Life Rescue (BDMLR) who alerted Robin Petch, the Yorkshire co-ordinator of the Seawatch Foundation. Photographs of the animal examined by experts at the Natural History Museum and the Seawatch Foundation confirmed its identity as a Risso's Dolphin. David Leng of the BDMLR also watched the dolphin, which was last seen around 13:00hrs. It is probable this animal erroneously entered the Humber system in attempting its southerly autumn migration.

The analysis of gut contents of five specimens which stranded in British waters revealed a diet largely of Curled Octopus *Eledon cirrhosa*, Common Cuttlefish *Sepia offcinalis* and small squid such as Veined or Long-finned Squid *Loligo forbesii* and European Flying Squid *Todarodes saggittatus* (Clarke & Pascoe, 1985; Zonfrillo *et al.*, 1988; Santoz Vazquez, 1998). Since these target cephalopods occur commonly off the Northumbrian and Yorkshire coasts (Spaul, 1956; Foster-Smith, 2000), it would seem that Risso's Dolphin should be able to forage successfully in local waters.

Acknowledgement
I would like to thank Damien Money for making public his Saltburn record. Martin Limbert alerted me to the Skelton occurrence. Internet access was provided via Doncaster Reference Library.

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[1] https://thefarneislands.blogspot.com/2018/08/rissos-dolphin-and-sunset.html
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[3] https://twitter.com/damian money?Lang=en
[4] https://www.hulldailymail.co.uk/news/hull-east-yorkshire-news/dolphin-spotted-east-yorkshire-river-2211132

Yorkshire Ichneumons: Part 9

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Introduction

Yorkshire statuses are taken from the chart shown on the YNU website.
www.ynu.org.uk/insects/parasitic_wasps
† = new county record
* = new vice-county record

Subfamily **PIMPLINAE**
Addition to Ely (2014a):
Tribe ***Polysphinctini***
Schizopyga podagrica Gravenhorst, 1829. New to Yorkshire.
†VC63: Hatfield Moor NNR 19.8.1992 P.Skidmore.
Tribe ***Pimplini***
Itoplectis clavicornis (Thomson, 1889). Rare in Yorkshire.
*VC65: Nosterfield NR 19.7.2018 A.R.Godfrey.

Subfamily **TRYPHONINAE**
Additions to Ely (2015a):
Tribe ***Phytodietini***
Phytodietus (Phytodietus) basalis Kasparyan, 1993. Rare in Yorkshire.
*VC65: Hutton Conyers 15.7.2017 C.H.Fletcher.
Tribe ***Tryphonini***
Polyblastus* (*Labroctonus*) *pallicoxa Thomson, 1888. New to Yorkshire.
†VC65: Foxglove Covert NR 2.8.2016 C.H.Fletcher.
Tryphon (Tryphon) relator (Thunberg, 1822). Rare in Yorkshire.

*VC61: Jeffry Bog 17.7.2015 R.Crossley.

Tryphon (Stenocrotaphon) subsulcatus Holmgren, 1857. Rare in Yorkshire.

*VC62: River Wye, Duncombe Park 22.6.2017 J.O.H.Small.

Subfamily **XORIDINAE**

Addition to Ely, W.A. (2015b):

Xorides fuligator (Thunberg, 1822). Rare in Yorkshire.

*VC62: Fen Bog 12.7.1937 H.Britten.

The YNU records of Xoridinae have been compiled as follows:

Decade	Species	Records	Records/Species	Collectors
1870-1879	1	1	1	1
1910-1919	1	3	3	2
1920-1929	1	3	3	2
1930-1939	2	2	1	2
1940-1949	2	3	1.5	2
1980-1989	3	8	2.7	4
2000-2009	5	5	1	3
2010-2019	3	4	1.3	3

Subfamily **CRYPTINAE**

Tribe ***Gelini***

Subtribe ***Hemitelina***

Addition to Ely, W.A. (2015b):

Hemiteles rubropleuralis Kiss, 1929. New to Yorkshire.

†VC64: Malham Tarn NT Fen 1-9.9.2013 P.&S.Flint.

Subtribe ***Gelina***

Addition to Ely, W.A. (2016):

Xenolytus bitinctus (Gmelin, 1790). Rare in Yorkshire.

*VC65: Nosterfield NR 19.7.2018 A.R.Godfrey.

Subtribe ***Mastrina***

Charitopes areolaris (Thomson, 1884). Rare in Yorkshire.

*VC65: Hagg Grounds, Cotherstone 12.7.2012 W.A.Ely.

Charitopes clausus (Thomson, 1888). Scarce in Yorkshire.

*VC62: Pexton Moor 1-4.6.2015 P.J.Mayhew.

Isadelphus inimicus (Gravenhorst, 1829). Scarce in Yorkshire.

*VC61: Park Wood, Ross Moor 5-12.8.9.2003 S.E.M.Fraser.

Subribe **Phygadeuontina**

Gnotus macrurus (Thomson,1884). Rare in Yorkshire.

*VC61: Park Wood, Ross Moor 5-12.8.9.2003 S.E.M.Fraser.

Subtribe ***Stilpnina***

Mesoleptus hispanicus Jussila, Sääksjärvi & Bordera 2010. **New to Britain**.

†VC64: Hollins Hill, Baildon 27.10.2016 H.N.Whiteley (*teste* G.R.Broad)

Atractodes (Asyncrita) exilis Haliday, 1839. Rare in Yorkshire.

*VC61: Many Gates Plantation, Limefield Farm, Stamford Bridge 1-8.7.2003 S.E.M.Fraser.

Tribe ***Cryptini***

Gambrus tricolor (Gravenhorst, 1829). Rare in Yorkshire.

*VC62: Bridestones NT car park 20.5.2015 R.Crossley.

Hoplocryptus bellosus (Curtis, 1837). New to Yorkshire.
†VC63: Barrow Colliery site 18.7.2011 W.A.Ely.
Idiolispa analis (Gravenhorst, 1807). Rare in Yorkshire.
*VC62: landslip, Scarborough South Bay 3.6.2011 D.Whiteley.

Subfamily **CTENOPELMATINAE**
Tribe ***Ctenopelmatini***
Ctenopelma tomentosum (Desvignes, 1856). Rare in Yorkshire.
Reported from VC63 in Ely (2014b) p43.
Notopygus emarginatus Holmgren, 1857. Rare in Yorkshire.
Unconfirmed report from VC61 in Fordham (1926) p118.
†VC62: Sandburn 6.6.1920 C.D.Ashe (det. G.J.Kerrich).

Tribe ***Chironotini***
Olethrodotis modestus (Gravenhorst, 1829).
The report from VC62: Highfield, Lastingham 5.5.1876 T.A.Marshall in Shaw & Kasparyan (2002) p137-139 is an error. Marshall had the living in the parish of Lastingham c1862-1865; he was in Leicestershire in 1876 and Highfield is east of the City of Leicester.

Tribe ***Pionini***
Rhorus anglicator Aubert, 1988. Rare in Yorkshire.
†VC63: Wyming Brook 22.7.1972 T.H.Riley.
*VC64: Bilton disused rly 1.7.1989 W.A.Ely.
Rhorus chrysopus (Gmelin, 1790). Rare in Yorkshire.
*VC61: Rush Wood, Naburn 10-17.6.2003 S.E.M.Fraser.
*VC62: Shaw Wood, Castle Howard 9.7.1988 W.A.Ely.
†VC63: Langold Holt 30.6.1985 W.A.Ely.
*VC64: Wadehouse Lane to Brickhill Lane, Drax Hales 26.7.1987 W.A.Ely.
*VC65: Marrick Park 29.6.2015 W.A.Ely.
Rhorus longicornis (Holmgren, 1858). Scarce in Yorkshire.
Reported from VC61 by Hincks (1953b) p136.
*VC62: Raper's Farm, Cropton Forest 9.7.2011 W.A.Ely.
*VC63: Barnby Dun station wood 14.7.1978 P.Skidmore.
*VC64: Ellington Banks 25.5.2011 C.H.Fletcher.
Rhorus palustris (Holmgren, 1857). Rare in Yorkshire.
†VC64: Harrogate ex sawfly larva 18.9.1961 [The collector may have been E.Broadhead] (det. J.F.Perkins).
Rhaestus lativentris (Holmgren, 1858). Rare in Yorkshire.
*VC61: Wheldrake Ings YWT NR 28.4.2015 R.Crossley.
†VC64: Malham 27-31.5.1955 R.B.Benson (det J.F.Perkins).
Rhaestus rufipes (Holmgren, 1857). Rare in Yorkshire.
*VC61: East Cottingwith 18.4.2011 R.Crossley.
*VC62: Bridestones NT car park 20.5.2015 R.Crossley.
†VC63: Laughton Pond, Roche Abbey 16.6.1986 S.J.Hayhow (det. G.R.Broad).
*VC64: Hollins Hill, Baildon 23-30.4.2013 + 6-12.5.2015 H.N.Whiteley.
Syntactus minor (Holmgren, 1857). Rare in Yorkshire.
†VC64: Malham 27-31.5.1955 R.B.Benson (det J.F.Perkins).
Pion fortipes (Gravenhorst, 1829). Scarce in Yorkshire.

Reported from VC61 by Hincks (1951) p28 and (1953b) p136 and from VC62 by Morley (1911) p235, Hincks (1956) p149 and (1957) p21 and Key (1987) p152.

*VC63: River Aire banks between Saltaire & Dowley Gap 8.1918 G.H.Rhodes.

*VC64: Ellerbeck, Slaidburn 12.6.2014 W.A.Ely.

Sympherta antilope (Gravenhorst, 1829). Rare in Yorkshire.

Reported from VC61 by Ely (2015c) p223 and from VC62 by Hincks (1956) p149 and (1957) p21 and Key (1987) p152.

*VC63: Langold Holt 21.5.1988 W.A.Ely.

Sympherta foveolator (Holmgren, 1856). Rare in Yorkshire.

†VC61: Allerthorpe Common 2.7.1945 W.D.Hincks.

*VC62: Wandesley 12.8.1987 J.Payne.

Sympherta obligator (Thunberg, 1824). Rare in Yorkshire.

Unconfirmed reports from VC62 in Roebuck (1877) p38 and from VC64 in Curtis (1837) p644, Roebuck (1907) p214, Morley (1911) p238 and Ely (2011a) p35.

†VC61: Allerthorpe 6.1926 W.J.Fordham (det. C.Morley, *teste* W.A.Ely).

*VC62: Pexton Bank YWT NR 4-6.6.2018 P.J.Mayhew.

*VC63: St Ives, Keighley 28.6.1947 J.Wood.

Sympherta splendens (Strobl, 1903). Rare in Yorkshire.

†VC62: Ellerburn Bank YWT NR 4-8.7.2011 P.J.Mayhew.

Sympherta ullrichi (Tschek, 1869). Rare in Yorkshire.

†VC61: Bempton clifftop, Flamborough 6.7.1975 W.A.Ely.

*VC63: Sprotborough 17.6.1985 W.A.Ely.

Asthenara scabricula (Thomson, 1893). Rare in Yorkshire.

†VC62: Buttercrambe Woods 10.5.1944 J.H.Elliott.

Asthenara socia (Holmgren, 1857). Rare in Yorkshire.

†VC61: Wilson's Plantation, Stamford Bridge 13-20.5 + 10-17.6.2003 S.E.M.Fraser.

Tribe ***Perilissini***

Oetophorus naevius (Gmelin, 1790). Rare in Yorkshire.

Reported from VC62 (as *Lathrolestes luteolator*) in Walsh & Rimington (1956) p276.

*VC61: Wheldrake Ings YWT NR 28.4.2015 R.Crossley.

*VC63: The Fleets 2.7.1988 W.A.Ely (det. G.R.Broad).

*VC64: Cookridge 10.6.1963 [E.Broadhead] (det. G.R.Broad).

Perilissus albitarsis Thomson, 1883. Scarce in Yorkshire.

†VC61: Allerthorpe Common 23.8.1927 W.J.Fordham.

*VC62: Buttercrambe Woods 20.7.1951 J.H.Elliott.

*VC63: Askern 6.7.1976 P.Skidmore.

*VC64: Sunnydale 2.7.1928 J.Wood.

*VC65: Hutton Conyers 17.5.2011 C.H.Fletcher.

Perilissus holmgreni Habermehl, 1925. Rare in Yorkshire.

*VC61: Naburn Wood 1-8.7.2003 S.E.M.Fraser.

†VC64: Sharp Hill, Drax 21.7.1987 W.A.Ely (det. G.R.Broad).

Perilissus pallidus (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed report from VC64 in Wilson (1881) p153, Bairstow *et al.* (1882) p106, Roebuck (1907) p215 and Morley (1911) p258.

†VC64: Barden 21.11.1919 R.Butterfield.

Perilissus rufoniger (Gravenhorst, 1820). Rare in Yorkshire.

Unconfirmed unlocalised report in Porritt (1882) p57, Roebuck (1907) p215 and Morley (1911) p257.

†VC63: Kilnhurst Ings LNR 7.6.2000 W.A.Ely.

Perilissus seminiger (Gravenhorst, 1829). Rare in Yorkshire.

†VC63: Pollington Camp 6.1976 P.Kendall.
*VC64: Long Drax 5.1989 D.Whiteley.

Perilissus spilonotus (Stephens, 1835). Rare in Yorkshire.

Unconfirmed report from VC62 in Walsh & Rimington (1956) p276.

*VC61: Skipwith Common NNR 22.4 + 2.5.2011 R.Crossley.
*VC62: Caydale 24.6.1984 W.A.Ely.
*VC63: Storthes Hall 20.8.1984 D.Maude.
†VC64: Malham Tarn NT 21.7.1956 W.D.Hincks (det. J.F.Perkins).
*VC65: Ballowfield LNR 7.8.2010 C.H.Fletcher,J.C.Warwick,W.A.Ely.

Perilissus stigmaticus Woldstedt, 1874. Scarce in Yorkshire.

*VC61: Allerthorpe 24.6.1928 W.J.Fordham.
†VC63: Tip Riverside, Keighley 22.8.1925 J.Wood.
*VC64: Malham Tarn Fen 5.2013 S.Flint,P.W.H.Flint.
*VC65: Hutton Conyers 12.5.2011 C.H.Fletcher.

Perilissus variator (Müller, 1776). Uncommon in Yorkshire.

Unconfirmed report from VC62 in Roebuck (1877) p38 and (1907) p215 and Morley (1911) p256-7 and from VC63 in Porritt (1882) p57, Roebuck (1907) p215 and Morley (1911) p256.

*VC61: Wheldrake Ings YWT NR 25.6.2016 J.O.H.Small.
†VC62: Whitby 7.1919 H.D.Smart (det. C.Morley, *teste* G.J.Kerrich).
*VC63: Berry Lane, Morton 12 + 14.7.1924 + 14.7.1925 J.Wood.
*VC64: Howden Rough, Riddlesden 6.6.1926 J.Wood.
*VC65: Marne Barracks 15.7.2011 C.H.Fletcher.

Lathiponus semiluctuosus (Vollenhoven, 1878). Rare in Yorkshire.

†VC63: Loscar Common 26.8.2002 W.A.Ely.
*VC64: Upper Dunsforth Carrs YWT NR 1.6.2015 R.Crossley.

Absyrtus vernalis Bauer, 1961. Scarce in Yorkshire.

*VC61: West End Farm, Muston 12-15.10.1984 P.Q.Winter.
*VC62: Haxby 20.6.2011 + 2.9.2012 + 7.7.2014 T.J.Crawford.
†VC63: Whitgift 6.1976 A.Grieve.
*VC64: Cawood 15.8-30.9.1995 J.Payne.
*VC65: Hutton Conyers 31.7.2011 C.H.Fletcher.

Absyrtus vicinator (Thunberg, 1824). Uncommon in Yorkshire.

Unconfirmed reports from VC63 and VC64 in Hincks (1953a) p38. Reported from VC62 (as *Priopoda apicaria*) in Walsh & Rimington (1956) p276.

†VC61: Bubwith 1914 W.J.Fordham (det. C.Morley, *teste* W.A.E.)
*VC63: Marley 7.1921 J.Wood.
*VC64: Barden 21.6.1919 [the collector may have been R.Butterfield].
*VC65: Colsterdale 1-2.9.1984 W.A.Ely.

Opheltes glaucopterus (Linnaeus, 1758). Scarce in Yorkshire.

Reported from VC63 in Brook (1976) p50 and Skidmore (2006) p148.

*VC61: Allerthorpe 15.9.1928 J.Wood.
*VC62: Strensall Common 14.8.1991 A.Grayson.
*VC64: Spofforth 10.9.2010 A.Draper.

Trematopygus nigricornis Holmgren, 1857. Rare in Yorkshire.

†VC64: Askham Bog YWT NR 26.5.1951 J.H.Elliott (det. G.R.Broad).

Trematopygus ruficornis (Zetterstedt, 1838). Rare in Yorkshire.

†VC63: Netherton 6.1984 D.Maude (det. G.R.Broad).

Synoecetes anterior (Thomson, 1893). Rare in Yorkshire.

†VC64: Malham Tarn Fen NT 5.2013 P.W.H.Flint,S.Flint.

Lathrolestes caudatus (Thomson, 1883). Rare in Yorkshire.

†VC64: Malham Tarn Fen NT 5.2013 P.W.H.Flint,S.Flint (det. G.R.Broad).

Lathrolestes luteolator (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed report from VC62 in Walsh & Rimington (1956) p276.

†VC63: Thorne Moors NNR 24-6-16.7.1987 W.A.Taylor.

Lathrolestes macropygus (Holmgren, 1857). New to Yorkshire.

†VC63: field 9496, Lindholme 11.6.2011 W.A.Ely.

Lathrolestes orbitalis (Gravenhorst, 1829). Rare in Yorkshire.

*VC61: Cali Heath YWT NR 2.6.2015 R.Crossley.

†VC62: Strensall 2.6.1943 J.H.Elliott (det. G.R.Broad).

*VC63: Sykes Quarry, Kiveton Park 19.6.1985 W.A.Ely (det. G.R.Broad).

Lathrolestes ungularis (Thomson, 1883). New to Yorkshire.

†VC63: field 9496, Lindholme 11.6.2011 W.A.Ely (*teste* G.R.Broad).

Lathrolestes verticalis (Brischke, 1871). New to Yorkshire.

†VC63: Pot Riding Lower Wood, Sprotborough Flash YWT NR 24.8.1989 W.A.Ely.

Tribe ***Scolobatini***

Scolobates auriculatus (Fabricius, 1804). Rare in Yorkshire.

Reported from VC61 in Fordham (1924) p305 and from VC63 in Ely (2014b) p43.

Tribe ***Mesoleiini***

Azelus erythropalpus (Gmelin, 1790). Scarce in Yorkshire.

Reported from VC62 (as *Perilissus rufoniger*) in Walsh & Rimington (1956) p276.

*VC61: Hollym Carrs NR 25.5.2002 W.R.Dolling.

*VC63: Unsliven Bridge, Stocksbridge 25.5.1977 J.Lee.

*VC64: Upper Dunsforth Carrs YWT NR 11.5.2015 R.Crossley.

Lagarotis debitor (Thunberg, 1824). Scarce in Yorkshire.

Reported frm VC63 by Butterfield (1908) p71.

*VC61: Bubwith 10.1912 W.J.Fordham.

*VC62: Stockton Hermitage 5.10.1951 J.H.Elliott.

*VC64: Sunnydale 25.9.1926 J.Wood.

Lagarotis semicaligatus (Gravenhorst, 1820). Scarce in Yorkshire.

Unconfirmed reports from VC61 in Morley (1911) p146, from VC63 in Carr (1914) p94 and Ely (2014b) p38 and from VC64 in Bairstow *et al.* (1882) p107, Roebuck (1907) p215 and Morley (1911) p146.

*VC61: Allerthorpe Common 5.8.1989 W.A.Ely.

*VC62: Raincliffe Wood 21.10.1979 unknown.

†VC63: Oughtibridge SB, Wharncliffe Wood 17.10.1976 + 2.10.1978 A.Brackenbury.

*VC64: Breary Marsh SSSI 29.9.2011 A.Barclay.

*VC65: River Swale, Downholme Park 25.7.1987 W.A.Ely.

Alexeter clavator (Müller, 1776). Rare in Yorkshire.

*VC61: Wilson's Plantation, Stamford Bridge + Park Wood, Ross Moor, Melbourne 4-11.9.2003 S.E.M.Fraser.

†VC62: Stockton Hermitage 14.10.1951 J.H.Elliott.

*VC63: Hatfield Lings 9.9.1973 P.Skidmore.

*VC64: Colt Park SSSI 22.8.2017 T.M.Whitaker.

Alexeter multicolor (Gravenhorst, 1829). Scarce in Yorkshire.

Unconfirmed report from VC64 in Wilson (1883) p109 and Roebuck (1907) p215.

†VC61: Allerthorpe Common 28.7.1928 J.Wood.

*VC62: Fylingdales Moor 7.9.2016 G.Featherstone.
*VC63: White Quarry Plantation, Dinnington 28.6.1979 W.A.Ely.
*VC64: Great Close, Malham 30.7.2011 W.A.Ely.
*VC65: Rawleth Great Wood, Gunnerside 13.8.2011 C.H.Fletcher,J.C.Warwick.

Alexeter nebulator (Thunberg, 1824). Scarce in Yorkshire.
Reported from VC64 by Ely (2011c) p215 and from VC65 by Ely (2011b) p69.
*VC61: Spaldington 10.12.1985 P.Kendall.
*VC62: Wykeham 29.5-31.12.2004 T.Jackson,P.Gould.
*VC63: Nab Wood 7.1915 G.H.Rhodes.

Alexeter niger (Gravenhorst, 1829). Rare in Yorkshire.
Unconfirmed report from VC62 in Morley (1911) p169 and from Bradford (?VC63) in Bairstow (1878) p70, Roebuck (1907) p215 and Morley (1911) p169.
†VC63: Dovestone Reservoir 7.7.2012 D.Whiteley (det. G.R.Broad).

Alexeter segmentarius (Fabricius, 1787). Rare in Yorkshire.
Unconfirmed report from VC62 in Morley (1911) p226.
†VC64: Malham Tarn NT 13.9.1957 + 25.7.1958 W.D.Hincks.

Protarchus testatorius (Thunberg, 1824). Rare in Yorkshire.
Unconfirmed report from VC63 in Stephens (1835) p44, Roebuck (1878) p66 and (1907) p215, Morley (1911) p136 and Ely (2014b) p38.
†VC63: Hatfield 8.7.1992 unknown.

Perispuda bignellii (Bridgman, 1881). Rare in Yorkshire.
*VC62: Pilmoor 10.9.1985 R.S.Key (*teste* G.R.Broad).
†VC63: Dick Clough 8.9.1985 D.Maude (det. G.R.Broad).
*VC64: Malham Tarn Fen 5.2013 P.W.H.Flint, S.Flint.

Perispuda sulphurata (Gravenhorst, 1807). Rare in Yorkshire.
Unconfirmed reports from VC62 in Roebuck (1907) p214, Morley (1911) p232 and Walsh & Rimington (1956) p276.
†VC61: Allerthorpe Common 18.8.1928 W.J.Fordham (det. C.Morley,*teste* W.A.Ely).
*VC63: Agden Bog YWT NR 7.8.1990 D.Whiteley (det. G.R.Broad).
*VC64: Spiggot Hill Fen, Malham Tarn NT 26.8.1955 + 31.7.1958 W.D.Hincks.

Lamachus eques (Hartig, 1838). Rare in Yorkshire.
Reported from VC62 by Walsh & Rimington (1956) p276.
*VC64: Shipley Glen 21.7.1928 J.Wood.

Lamachus virgultorum (Gravenhorst, 1829). Rare in Yorkshire.
*VC61: North Cave Wetlands YWT NR 3.6.2015 R.Crossley.
*VC62: Dother Pits, Runswick Bay 9.6.1990 W.A.Ely.
†VC63: Pot Riding Wood, Sprotborough Flash YWT NR 4.5.1989 W.A.Ely (det. G.R.Broad).
*VC64: Malham Tarn Fen 5.2013 S.Flint,P.W.H.Flint (det. G.R.Broad).

Scopesis bicolor (Gravenhorst, 1829).
Unconfirmed report from VC62 in Walsh & Rimington (1956) p276.

Scopesis frontator (Thunberg, 1824).
Unconfirmed reports from VC64 in Wilson (1883) p109 and Roebuck (1907) p215.

Himerta defectiva (Gravenhorst, 1820). Rare in Yorkshire.
†VC64: Malham Tarn NT 31.7.1958 W.D.Hincks.

Himerta sepulchralis (Holmgren, 1876). New to Yorkshire.
†VC63: Brecks, Rotherham 26.8.2016 M.A.Smethurst.

Rhinotorus compactor (Thunberg, 1824).
Unconfirmed reports from VC61 in Fordham (1931b) p356 and from VC64 in Bairstow, *et al.* (1882) p107, Roebuck (1907) p215 and Morley (1911) p177.

Rhinotorus longicornis (Schmiedeknecht, 1914). Rare in Yorkshire.

†VC61: Cali Heath YWT NR 25.4.2011 R.Crossley (det. G.R.Broad).

Campodorus caligatus (Gravenhorst, 1829).

Unconfirmed reports from VC64 in Wilson (1883) p109 and Roebuck (1907) p215.

Campodorus difformis (Holmgren, 1876). Rare in Yorkshire.

†VC61: Skipwith Common 14.6.1951 J.H.Elliott.

*VC63: Listerdale Woods 23.8.2017 M.A.Smethurst.

Campodorus elegans (Parfitt, 1882). Rare in Yorkshire.

Reported from VC64 by Shaw & Kasparyan (2003).

*VC63: Thrybergh Tip 22.9.1984 W.A.Ely.

Campodorus flavescens Kasparyan, 2003. Rare in Yorkshire.

†VC62: Haxby 11.8.2016 T.J.Crawford.

Campodorus haematodes (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed report from VC62 by Morley (1911) p161. Unlocalised report in Stephens (1835) p240 [there are two specimens in NHM labelled "Stephens Collection" and each with a small white paper disk but no locality information, so there is no indication that either is from Yorkshire; however, there is no indication either that Stephens' identification has been challenged and it seems that Stephens identified both accurately, so I take the view that his identification of the Yorkshire specimen is reliable].

Campodorus marginalis (Geoffroy, 1785). Rare in Yorkshire.

†VC63: Seckar Woods 3.7.1943 W.D.Hincks.

Campodorus mediosanguineus (Heinrich, 1950). Rare in Yorkshire.

†VC63: Marley 3.9.1926 J.Wood.

Campodorus variegatus (Jurine, 1807). Rare in Yorkshire.

Reported from VC61 in Fordham (1926) p118.

*VC63: St Ives 8.7.1944 J.Wood.

*VC64: Sunnydale 2.10.1925 J.Wood.

Mesoleius armillatorius (Gravenhorst, 1807). Rare in Yorkshire.

Unconfirmed report from VC62 in Roebuck (1877) p38 and (1907) p215 and Morley (1911) p154.

†VC61: Bubwith 1912/1934 W.J.Fordham (det. C.Morley, *teste* W.A.Ely).

Mesoleius aulicus (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed reports from VC62 in Roebuck (1877) p38 and (1907) p215 and from VC64 in Wilson (1881) p153, Bairstow *et al.* (1882) p107, Wilson (1883) p109, Roebuck (1907) p215 and Morley (1911) p157.

†VC61: Rush Wood, Naburn 10-17.6.2003 S.E.M.Fraser.

Mesoleius axillaris (Stephens, 1835). Rare in Yorkshire.

*VC61: Frog Hall, Allerthorpe Common 13.7.1929 W.J.Fordham.

*VC63: Holmehouse Wood 3.10.1925 J.Wood.

†VC65: Ravensworth 2.7.1925 W.J.Fordham.

Mesoleius dubius Holmgren, 1857.

Unconfirmed report from VC62 in Bairstow *et al.* (1882) p107, Wilson (1883) p109, Roebuck (1907) p215 and Morley (1911) p163.

Mesoleius filicornis Holmgren, 1876.

Unconfirmed reports from VC61 in Fordham (1919) p70 and from VC62 in Walsh & Rimington (1956) p276.

Mesoleius furax Holmgren, 1857. Rare in Yorkshire.

†VC61: Allerthorpe 8.1925 W.J.Fordham.

Mesoleius fuscipes Holmgren, 1857. New to Yorkshire.

†VC61: Wigman Wood, Wheldrake 5-12.8.2003 S.E.M.Fraser.

Mesoleius melanoleucus (Gravenhorst, 1829). Rare in Yorkshire.

†VC61: Reighton Gap 23.6.1980 W.A.Ely.

*VC63: Holywell Wood, Glass Houghton 21.7.2011 W.A.Ely.

Mesoleius nivalis Holmgren, 1857. Rare in Yorkshire.

Recorded from VC64 by Shaw & Kasparyan (2003).

*VC63: Rabbit Ings, Royston 22.9.2012 W.A.Ely.

*VC65: Oxnop Gill 5.10.1985 I.F.G.McLean.

Mesoleius opticus (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed report from York in Wilson (1881) p153, Bairstow *et al.* (1882) p107, Roebuck (1907) p215 and Morley (1911) p164.

*VC63: West Lane, Keighley 3.8 em. 22.9 + 14.8 em. 26 + 27 + 29.9.1931 J.Wood.

†VC64: Washburn Valley 18.7 em. 23.9.1931 J.Wood.

Mesoleius pyriformis (Ratzeburg, 1852). Rare in Yorkshire.

*VC61: Rush Wood, Naburn 10-17.6.2003 S.E.M.Fraser.

*VC63: White Quarry Plantation, Dinnington 28.6.1979 W.A.Ely.

†VC64: Sunny Dale, East Morton 7.1915 G.H.Rhodes.

*VC65: Cat Bank between River Swale and roadway to Marrick Park 29.6.2015 W.A.Ely.

Tribe ***Euryproctini***

Synomelix albipes (Gravenhorst, 1829). Scarce in Yorkshire.

†VC61: Frog Hall, Allerthorpe Common 8.8.1928 + 26.8.1929 W.J.Fordham (det. G.J.Kerrich).

*VC62: Malton Road, York 7.10.1945 J.H.Elliott.

*VC63: Bamforth Street, Sheffield 22.7.1985 A.S.Lazenby.

*VC64: Ellington Banks 7.8.2012 C.H.Fletcher.

Pantorhaestes xanthostomus (Gravenhorst, 1829). Rare in Yorkshire.

*VC61: Millington Springs 10.6.2014 R.Crossley.

*VC62: Strensall Common 18.7.2014 R.Crossley.

*VC63: Lady Canning's Bog 3.7.1990 D.Whiteley.

†VC65: Pennine Way at Middleton-in-Teesdale 21.6.1981 W.A.Ely.

Synodites facialis (Thomson, 1893).

Unconfirmed report from VC64 in Bairstow *et al.* (1882) and Roebuck (1907).

Synodites notatus (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed unlocalised report in Stephens (1835) p252 and from VC62 in Morley (1911) p250.

†VC63: Thrybergh CP 28.5.1996 W.A.Ely (det.G.R.Broad).

Otlophorus senilis (Holmgren, 1876). Rare in Yorkshire.

†VC64: Hollins Hill, Baildon 10-17.10.2015 H.N.Whiteley.

Otlophorus vepretorum (Gravenhorst, 1829). Rare in Yorkshire.

*VC63: Unsliven Bridge, Stocksbridge 25.6.1977 J.Lee.

†VC64: Shipley Glen 1.6.1931 J.Wood.

Mesoleptidea cingulata (Gravenhorst, 1829). Rare in Yorkshire.

Reported from VC61 by Fordham (1926) p118.

*VC62: Pexton Bank YWT NR 4-6.6.2018 P.J.Mayhew.

*VC63: Thorne Moors 22.7.1979 P.Skidmore.

Mesoleptidea prosoleuca (Gravenhorst, 1820). New to Yorkshire.

*VC61: main lake, North Cave Wetlands YWT NR 19.8.2015 R.Crossley.

*VC62: Caydale 26.6.1984 W.A.Ely.

*VC63: Newsholme Dene 12.7.1930 J.Wood.

†VC64: Shipley Glen 13.8.1929 J.Wood.

Mesoleptidea stallii (Holmgren, 1858). Rare in Yorkshire.

†VC61: Frog Hall, Allerthorpe Common 8.8.1928 W.J.Fordham (det. G.J.Kerrich).

Anoncus gracilicornis (Holmgren, 1857). Rare in Yorkshire.

Recorded from VC63 by Ely (2014b) p43.

Gunomeria macrodactyla (Holmgren, 1856). Rare in Yorkshire.

Unconfirmed report from VC61 in Fordham (1920) p182.

†VC61: Allerthorpe Common 1.7.1984 W.A.Ely.
*VC62: Fen Bog YWT NR 15.7.2015 R.Crossley.
*VC63: Dobb Dike 10.6.1985 D.Maude.
*VC64: Malham Tarn Fen 10.2013 P.W.H.Flint,S.Flint.

Anisotacrus tenellus (Holmgren, 1857). Rare in Yorkshire.

*VC61: Thornton 29.4-13.5.2014 R.Crossley.
*VC62: Chafer Wood YWT NR 28.5.1988 W.A.Ely.
†VC63: Butternab Wood 2.6.1984 D.Maude.

Hadrodactylus faciator (Thunberg, 1824). Rare in Yorkshire.

Recorded from VC63 by Ely (2014b) p43.

Hadrodactylus femoralis (Holmgren, 1857). Rare in Yorkshire.

*VC61: Skipwith Common NNR 20.5.2011 R.Crossley.
*VC63: Holmehouse Wood 2.7.1932 J.Wood.
†VC64: Barden 6.6.1918 R.Butterfield.

Hadrodactylus flavofacialis Horstmann, 2000. Scarce in Yorkshire.

†VC61: Allerthorpe 6.1926 W.J.Fordham (det. C.Morley).
*VC63: Denaby Ings YWT NR 29.5.1968 P.Skidmore.
*VC64: Ellerbeck, Slaidburn 12.6.2014 W.A.Ely.

Hadrodactylus fugax (Gravenhorst, 1829). Uncommon in Yorkshire.

Unconfirmed reports from VC63 in Ely (2014b) p39 and from VC65 in Morley (1911) p222-3.

Recorded from VC61 by Hincks (1953b) p136.

*VC62: Malton Road, York 30.4.1945 J.H.Elliott.
*VC63: Norwood Locks 1983 W.A.Ely.
*VC64: Knaresborough Ringing Station 10.6.1972 unknown.
*VC65: Park End Wood, Teesdale 21.6.1981 W.A.Ely.

Hadrodactylus genalis Thomson, 1883. **New to Britain**.

†VC64: Malham Tarn Fen 5.2013 P.W.H.Flint,S.Flint.

Hadrodactylus gracilipes Thomson, 1883. Rare in Yorkshire.

*VC61: Skipwth Common NNR 2.5.2011 R.Crossley.
*VC62: Clifton, York 6.6.1989 A.Grayson.
†VC63: Bitholmes Wood 26.6.1986 A.Brackenbury.

Hadrodactylus graminicola Idar, 1979. Rare in Yorkshire.

Recorded from VC61 by Ely (2015c) p223.

*VC64: Upper Dunsforth Carrs YWT NR 1.6.2015 R.Crossley.

Hadrodactylus idari Kasparyan & Shaw, 2009. Scarce in Yorkshire.

†VC63: Denaby Ings YWT NR 22.5.1966 C.J.Devlin.
*VC64: Swinsty Moor 18.6.2011 D.Parkinson.
*VC65: Hudswell Woods NT, Richmond 20.6.2014 W.A.Ely.

Hadrodactylus indefessus (Gravenhorst, 1820). Rare in Yorkshire.

*VC61: Skipwth Common NNR 2 + 30.5.2011 R.Crossley.
†VC63: Cromwell Bottom LNR 23.6.1990 A.Brackenbury.

Hadrodactylus insignis Kriechbaumer, 1891. Rare in Yorkshire.

Recorded from VC63 by Ely (2014b) p43.

*VC61: Bubwith 17.6.1916 W.J.Fordham.

Hadrodactylus nigrifemur Thomson, 1883. Rare in Yorkshire.

*VC61: Wheldrake Ings YWT NR 12.6.2016 J.O.H.Small.

*VC63: Maltby Low Common YWT NR 17.7.1983 W.A.Ely.

†VC64: Askham Bog YWT NR 13.8.1932 J.Wood.

Hadrodactylus paludicola (Holmgren, 1856). Rare in Yorkshire.

Recorded from VC63 by Ely (2014b) p43.

Hadrodactylus semirufus (Holmgren, 1858). Rare in Yorkshire.

†VC61: Skipwith 25.6.1923 W.J.Fordham (det. C.Morley, *teste* W.A.Ely).

*VC63: Cranberry Clough 24.7.1990 + 1.8.1991 D.Whiteley.

*VC64: Malham Tarn Fen 22.7.1984 W.A.Ely.

*VC65: Colsterdale 1.9.1984 W.A.Ely.

Hadrodactylus tiphae (Geoffroy, 1785). Scarce in Yorkshire.

Unconfirmed reports from VC61 in Fordham (1920) p182, from VC62 in Roebuck (1877) p38 and (1907) p214, Morley (1911) p221 and Walsh & Rimington (1956) p276 and from VC64 in Bairstow *et al.* (1882) p106, Roebuck (1907) p214 and Morley (1911) p221.

†VC61: Frog Hall 6.6.1933 W.J.Fordham (det. C.Morley,*t.*G.J.Kerrich).

*VC62: Strensall Common 4 + 15.7.2014 R.Crossley.

*VC63: Park Hill brickpits 29.7.2014 D.Whiteley.

Hadrodactylus vulneratus (Zetterstedt, 1838). Scarce in Yorkshire.

*VC63: Crimsworth Dene 3.6.1926 J.Wood.

†VC64: Grassington 6.1911 R.Butterfield.

*VC65: Colsterdale 7.7.1984 W.A.Ely.

Syndipnus discolor (Holmgren, 1857).

Unconfirmed reports from VC64 in Wilson (1883) p109 and Roebuck (1907) p215 but this ichneumon has not been accepted onto the British list.

Syndipnus lateralis (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed report from VC61 in Fordham (1919) p70.

†VC63: Holmehouse Wood 8.6.1940 J.Wood.

Syndipnus macrocerus (Thomson, 1883). Rare in Yorkshire.

†VC61: East Cottingwith 10.5.2015 R.Crossley (det. G.R.Broad).

Hypsantyx lituratorius (Linnaeus, 1761).

Unconfirmed reports from VC62 in Roebuck (1877) p38 and (1907) p214 and Morley (1911) p202 and from from VC64 in Bairstow *et al.* (1882) p107, Roebuck (1907) p215 and Morley (1911) p202.

Phobetes atomator (Müller, 1776). Rare in Yorkshire.

*VC61: Wheldrake Ings YWT NR 6.7.2016 J.O.H.Small.

†VC63: Saltaire 7.1907 [A.R.Sanderson may have been the collector].

*VC64: Cragg Wood, Rawdon 8.1917 [A.R.Sanderson may have been the collector].

Phobetes femorator (Thomson, 1893). Rare in Yorkshire.

†VC61: Rush Wood, Naburn 10-17.6.2003 S.E.M.Fraser.

*VC65: Langton Wood, Northallerton 9.6.2011 W.A.Ely,M.McKerchar.

Phobetes leptocerus (Gravenhorst, 1820). Scarce in Yorkshire.

†VC62: Malton Road 24.7.1943 J.H.Elliott.

*VC63: Treeton 5.8.1982 W.A.Ely.

*VC64: Cawood 9.1996 J.Payne.

*VC65: Hutton Conyers 31.7.2011 C.H.Fletcher.

Phobetes nigriceps (Gravenhorst, 1829).

Unconfirmed report from York in Wilson (1881) p153, Bairstow *et al.* (1882) p106, Roebuck (1907) p214 and Morley (1911) p247.

Euryproctus annulatus (Gravenhorst, 1829). Rare in Yorkshire.

†VC61: Wilson's Plantation, Stamford Bridge 11-17.9.2003 S.E.M.Fraser.

Euryproctus bivinctus Holmgren, 1857. Rare in Yorkshire.

†VC62: Fyling Hall 6.1931 W.J.Fordham (det. G.J.Kerrich).

Euryproctus crassicornis Thomson, 1889. Rare in Yorkshire.

†VC64: Kingdale, Ingleton 7.10.2012 W.A.Ely.

*VC65: Carperby Moor 7.9.2016 C.H.Fletcher (*t.*G.R.Broad).

Euryproctus geniculosus (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed report from VC62 in Roebuck (1877) p38 and (1907) p214 and Morley (1911) p244 and from VC64 in Bairstow (1878) p69 and Roebuck (1907) p214. Recorded from VC63 in Ely (2014b) p43.

*VC61: Corner Field, Spurn Point YWT NR 22.7.2018 D.Whiteley.

Euryproctus holmgreni Kerrich, 1942. Rare in Yorkshire.

Recorded from VC63 in Kerrich, G.J. (1942) p66 and Hincks (1943a) p30 and (1943b) p59.

Euryproctus luteicornis (Gravenhorst, 1829). Rare in Yorkshire.

†VC63: River Aire at Cottingley 6.1918 G.H.Rhodes.

The YNU records of Ctenopelmatinae have been compiled as follows:

Decade	Species	Records	Records/Species	Collectors
1830-1839	4	5	1.25	2
1860-1869	11	12	1.1	2
1870-1879	2	2	1	1
1880-1889	17	22	1.3	2
1890-1899	4	4	1	2
1900-1909	7	7	1	4
1910-1919	27	45	1.7	9
1920-1929	44	65	1.48	6
1930-1939	17	27	1.6	6
1940-1949	13	26	2	5
1950-1959	16	26	1.56	3
1960-1969	8	9	1.1	3
1970-1979	23	34	1.48	10
1980-1989	52	139	2.65	19
1990-1999	23	34	1.48	8
2000-2009	32	66	2.1	10
2010-2019	70	279	4	29

Subfamily **LYCORININAE**

Lycorina triangulifera Holmgren, 1859. Rare in Yorkshire.

†VC64: Barden 29.6.1919 R.Butterfield.

The YNU record of Lycorininae has been compiled as follows:

Decade	Species	Records	Records/Species	Collectors
1910-1919	1	1	1	1

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Yorkshire Naturalists' Union Excursions in 2018

Thorne Moors National Nature Reserve (VC63) 19 May 2018

INTRODUCTION (Joyce Simmons)
Actinic moth traps were set in the Silver Birch *Betula pendula* woodland prior to the meeting and left overnight. The evening was glorious and we were treated to the sight of three flying Common Cranes and a view of the forehead of a Tawny Owl waiting for dark in a nest box.

A beautiful day of pleasant sunshine was perfect for our excursion to Thorne Moors which was attended by 22 members and friends, including eight YNU affiliated societies. Tim Kohler (Natural England's Senior Reserve Manager, Humberhead Peatlands NNR) gave us a brief introduction to the Moors.

Although it was early in the year for invertebrates, there were many encounters with unusual and rare species. Gavin Boyd (dipteran specialist) found an abundance of flies and wrote that 'There was too much habitat and not enough entomologists'. Sharon and Peter Flint were delighted by the abundance of life in the many peaty pools, noting 14 new records for the grid square and finding specimens such as Water Stick-insect *Ranatra linearis*.

The lepidopterists found, with the help of Ian McDonald, a clump of willows on which were larvae of the rare and local Scarce Vapourer feeding together with Lackey and Yellowtail

caterpillars. A mating pair of beetles *Hylcoetus dermestoides* also on the bushes proved the necessity for shrubs to be present in the mainly low-growth habitat. Despite the meeting being early in the plant gall season, several were found by Tom Higginbottom.

FLOWERING PLANTS (Louise Hill (LH))
The botanists were led by Don Grant and LH to look for some of the Moors treasures. Plants of Bog Rosemary *Andromeda polifolia* were very small and not yet in flower. Finding flowering Cranberry *Vaccinium oxycoccus* (Fig. 1 p212) involved some bog-hopping (rubber boots needed) but Marsh Arrowgrass *Triglochin palustris* (Fig. 1 p212) was easy as it was growing on boggy bits of the track. There were a few young specimens of Royal Fern *Osmunda regalis*, we hope that these will increase in coming years.

We concentrated our efforts on the main rides from Blue Bridge Car Park, past the viewing platform and then westwards along the north edge of the Southern Canals. Members of the party ventured into the Canals peat cuttings where ground conditions and agility allowed. Our guide for the day was Ian McDonald.

The path edges and their boundary drains supported a number of notable plants including at least two colonies of Great Fen-sedge *Cladium mariscus*, a scattered occurrence of Common Twayblade *Neottia ovata*, and one section where the young leaves of Greater Yellow-rattle *Rhinanthus angustifolius* were visible. Marsh Arrowgrass grows in some profusion in the middle of the path as one approaches the viewing platform from the east. Don Grant identified the bramble bordering the Canals edge path as Plaited-leaved Bramble *Rubus plicatus*.

A colony of a rhizomatous sedge beside the Canals path at SE7246915635 caused a degree of interest and subsequent discussion at the afternoon meeting. The specimen keys out as Greater Pond-sedge *Carex riparia* but was very short in stature, had very short, neat and narrow female spikes and leaves which were noticeably glaucous. After the meeting a specimen was sent to the BSBI Carex referee but the diagnosis was inconclusive. Further work on this sedge colony is required.

Water-violet *Hottonia palustris* (Fig. 1 p212), Marsh Pennywort *Hydrocotyle vulgaris* and Marsh Cinquefoil *Comarum palustre* were particularly abundant in the open water beside the path south of Blue Bridge. In addition to the heathers and cotton grasses of the bog, a number of other plants were noted including Bog-rosemary, White Sedge *Carex canescens*, Round-leaved Sundew *Drosera rotundifolia*, Narrow Buckler-fern *Dryopteris carthusiana* and locally-abundant Cranberry. Several plants of Royal Fern were seen growing near to the paths, including one majestic specimen which was sufficiently close to stable ground to allow photography.

LEPIDOPTERA (Harry Beaumont and Paul Simmons)
Four actinic moth traps had been set on the Friday evening but cool overnight temperatures resulted in low catches. The most notable moths were single examples of Brindled Beauty and Chocolate-tip, the latter a recent arrival into the south of the county and making this probably its first report from Thorne Moors. Others included Poplar Hawk-moth, Grey Birch, Pale Tussock, and Pebble and Lesser Swallowtail Prominents.
The temperature quickly increased leading to a warm, sunny day but, except for Brown Silver-line which was seen frequently among Bracken, day flying moths were few. These included a

few Common Heath and a single Beautiful Yellow Underwing, both of which are characteristic moths of heather habitats.

Larvae recorded included a good number of those of Lackey, Oak Eggar, Garden Tiger and about ten of the spectacular and nationally uncommon Scarce Vapourer (Fig. 2 p212), feeding on sallows.

Following a fairly cool spring, butterflies were not numerous. Orange Tip and Brimstone represented the spring-emergers, whilst Small Copper and Common Blue represented the summer.

ODONATA

Odonata seen on the day included the expected damselflies – Common Blue, Azure and Large Red *Pyrrhosoma nymphula*. Hairy Dragonflies *Brachytron pratense* were seen at the end of the afternoon flying over a dyke next to our parked cars. However, there were very large numbers of Four-spotted Chasers everywhere, though apparently many fewer than on previous days. Fig. 3 p212 shows these dragonflies at a roost in Common Reed a few days earlier, where over 700 were estimated, with a larger number in another roost.

DIPTERA and COLEOPTERA (Gavin Boyd)

Most of the insects found are described as common, particularly in the wetland conditions of the Moors. An exception was the fly *Phaonia falleni,* which has a sparse and largely western and northern distribution. *Chrysotoxum arcuatum* is a very handsome hoverfly with a similar distribution (though more common) and almost unknown south of a line between Gloucester and Hull. *Anasimya lineata* and *Tropidia scita* are characteristic hoverflies of lowland marshes. The big ground beetle *Carabus granulatus* and the rather smaller *Elaphrus cupreus* are also associated with wetland conditions at the edges of water bodies.

FRESHWATER BIOLOGY (Sharon and Peter Flint)

We started the day off by receiving a single adult caddis, a male of *Limnephilus binotatus*, which had been caught in the Robinson moth trap, set out the night before the meeting. This insect has been recorded once previously, in 2012.

We put the pond net through part of Swinefleet Dyke and found an abundance of *Limnephilus marmoratus* making its very striking, tangentially arranged, cases from the vegetation of the dyke. We also found two 'caseless' caddis, *Holocentropus dubius* and *H. picicornis* (the latter has been recorded at the site before). There were also plenty of *Triaenodes bicolor* darting about in our sampling tray. In addition to the juvenile caddisflies in the dyke, we found many adult and larval Dytiscid diving beetles. These included two species of *Dytiscus*: *D. marginalis* and *D. semisulcatus*; and both species of *Acilius*: *A. semisulcatus* and the much less common *A. canaliculatus*. We saw two Water Stick-insects (Fig.4 p212); a close relative of the Water Scorpion *Nepa cinerea* was also abundant along with the water boatman *Notonecta obliqua.* We encountered quite a few Water Spiders *Argyroneta aquatica*, which it was very nice to see. Moving onto some nearby ponds we found larvae of the caddisfly *Agrypnia varia*, a member of the Family, Phryganeidae, which make distinctive spiral cases.

Images from Thorne Moors VC63

Figure 1 (see p210). Cranberry *Vaccinium oxycoccus (Left),* Marsh Arrowgrass *Triglochin palustris* (centre) and Water-violet *Hottonia palustris (right).* *D. Williamson and K. White*

Figure 2 (see p211). The rare Scarce Vapourer moth larva on a willow leaf. *J.Simmons*

Figure. 3 (see p211). A small part of a large roost of Four-spotted Chasers *Libellula quadrimaculata*. *M.Williams*

Figure 4 (see p211). Water Stick-insect *Ranatra linearis* from Swinefleet Dyke. *S. Flint*

Figure 5 (see p213). Hobby feeding on the abundant dragonflies of Thorne Moors. *K. White*

PLANT GALLS (Tom Higginbottom)

The first gall to be discovered was the fungus *Puccinia phragmatis* causing red blisters on the leaves of Broad-leaved Dock *Rumex obtusifolius*. The alternative host for this fungus is Common Reed *Phragmites australis,* which covers large areas of Thorne Moors. There were old examples of the 'cigar' gall, swelling stems of the Common Reed caused by the fly *Lipara lucens.* The young shoots on a single Reed had been wrinkled, swollen and twisted into a ladder-like shape by the mite *Steneotarsonenus phragmitidis.* The leaves of sallows were host to a variety of galls. The sawfly *Eupontania pedunculi* had caused swellings on the underside of the leaves while another sawfly, *Pontania bridgmanii,* had caused swellings which were more visible on the upper surface. Small pimples caused by the midge *Iteomyia capreae* were visible on the upper surface of the leaves with circular red-rimmed openings below. There were also slightly larger rounded reddish pimples caused by the mite *Aculus laevis.* Leaves of a young Birch tree were transformed by the red erineum of the mite *Acalitus longisetosus* covering the whole upper surface of many leaves. An old stem of Creeping Thistle *Cirsium arvense* had been host to the fly galler *Urophora cardui* which had caused a distinctive swelling. After much searching between the sallows and the birches a mature oak tree was discovered on which were examples of old bud galls caused by the Ramshorn gall *Andricus aries,* the cola-nut gall *A. lignicolus,* and *A. corruptrix*.

BIRDS (Ken White and Bob Causey)

A total of 41 species were recorded during the visit to the reserve, this high number reflecting the excellent mixture and high quality of the habitats present. The warm and sunny day brought out five species of raptor including two Hobbies (Fig. 5 p212) hawking the plentiful Four-spotted Chasers and a pair of hunting Marsh Harriers. Other highlights included Tufted Duck, Snipe, Water Rail and a close view of a singing Cuckoo. A good range of singing warblers were present such as Chiffchaff, Willow Warbler, Garden Warbler, Reed Warbler and Sedge Warbler. Several Reed Bunting were also singing. There was a singing Corn Bunting and at least five Yellow Wagtails on the arable farmland in between Swinefleet village and the NNR reserve. Swifts were screaming over the village during the tea and meeting.

CONSERVATION

Natural England has a programme of removing Silver Birch and invasive *Rhododendron ponticum* from the Moors as well as keeping the water level as high as possible. Both these aims are formidable as the Moors is vast, the Birch is prolific and the Rhododendron difficult to eradicate. Thorne Moors are in one of the driest parts of the country, which makes the other aim difficult too. However, as our members would testify, the efforts are most definitely worthwhile as the Moor is a wonderful habitat with an immense diversity of life which was so nearly lost.

ACKNOWLEDGEMENTS

I would like to thank Tim Kohler for his help before and on the day and the very warm welcome that we received, and Ian McDonald for his encouragement to visit Thorne Moors and for generously sharing his background knowledge.

Swarth Moor (VC64) 23 June 2018

INTRODUCTION (Ken White)
The long dry and fine spell of summer weather continued as I began my first meeting as the new VC64 Excursions Secretary at Swarth Moor Raised Bog SSSI near Helwith Bridge. Terry Whitaker had kindly made access arrangements for the site and comprehensively organised the mothing session the night before by the Yorkshire Moth Group. 17 YNU members attended the day session, and the afternoon meeting which had 12 members representing 11 affiliated societies, was conducted in the very conveniently situated and nearby Helwith Bridge Inn.

GEOLOGY/GEOMORPHOLOGY (Ken White)
Formerly known as Helwith Moss, the Swarth Moor Raised Bog was notified as a SSSI in 1958 as a virtually intact and nationally important lowland bog, and revised in 1986 to cover 85.2 acres. As part of the Ingleborough NNR, it is set in the valley of the River Ribble, which has carved its way south through a landscape of contorted Silurian sand, mud and siltstones (Horton and Austwick formations), which is overlain by the widespread and largely level capping of Carboniferous Limestones (Kilnsey and Garsdale formations). The time between the two periods, amounts to 90 million years, with rock quarrying activities revealing a spectacular unconformity that James Hutton would have been proud of.

The bog formed as a combined result of the last Ice Age maxima and retreat in the valley, and the ensuing congested hydrological conditions favoured mire growth and created an actively growing dome of wet moss. Local peat cutting ceased some while ago, but at the time it might have rejuvenated mire growth in places. Whilst working the adjacent Dry Rigg Quarry (see Fig. 6 p216), Lafarge Tarmac commissioned a detailed ecological review by Honour & Lupton [2006] to aid the planning of the abandonment of the quarry projected for the mid 2020s. It was noted that significant parts of the raised bog showed signs of drying out, and a renewed peat cutting activity might rejuvenate the raised bog process. They also noticed the deepening of adjacent farmland drainage ditches and the base-rich drainage coming off the quarry works and the resulting influence on the flora. In 2015 the Ingleborough Dales Landscape Partnership [IDLP] specified a Swarth Moor Restoration project in the Stories in Stone - Landscape Conservation Action Plan, with detailed reshaping and re-wetting of the raised bog surface. This project is only now starting to be implemented.

BOTANY (Sarah White)
Recording concentrated on the 1km square which conveniently covers Swarth Moor SSSI itself and also includes the spoil and pond area in the adjacent Dry Rigg Quarry. Over 200 plants were recorded and this list was sent to the County Recorder for inclusion in the BSBI 2020 Atlas. I am very grateful to Mike Wilcox and Judith Allinson for their valuable contributions to the plant species list.

Much of the raised mire was found to be rather dry and dominated by Purple Moor-grass *Molinia caerulea*, but this grades into wetter bog and fen communities with pools on the western and southern margins where calcareous water draining from the quarry both keeps it wet and locally enriches the flora. Many of the more interesting plants were found in these areas. Notable records included Lesser Bladderwort *Utricularia minor* (present in small quantity but not flowering), Bog Rosemary and a particular abundance of Cranberry. Marsh Cinquefoil,

Common Valerian *Valeriana officinalis* and Marsh Valerian *V. dioica* were also notable for their abundance. A number of willows were recorded including Tea-leaved Willow *Salix phylicifolia*, Bay Willow *S. pentandra* and the hybrid *S. x tetrapla* (*S. myrsinifolia x phylicifolia*). Narrow Buckler-fern was frequent. White Beak-sedge *Rhynchospora alba*, recorded by Cheetham in 1949, was unfortunately not re-found.

Studfold Moss, at the northern edge of the site, comprises a distinct block of tall herb fen and wet birch woodland. Again, there was an abundance of Common Valerian in flower, with Wild Angelica *Angelica sylvestris* and Skullcap *Scutellaria galericulata*. Combs Dyke contained Branched Bur-reed *Sparganium erectum* and Monkey Flower *Mimulus guttatus* with Various-leaved Water-starwort *Callitriche platycarpa* in shaded pools nearby. Orpine *Sedum telephium* was found at the edge of the woodland here.

The Dry Rigg Quarry pond contained an interesting mix of aquatic plants including Mare's-tail *Hippuris vulgaris*, Bogbean *Menyanthes trifoliata*, Small Pondweed *Potamogeton berchtoldii* and Fennel Pondweed *P. pectinatus*. A number of Bee Orchids *Ophrys apifera* were found on the dry spoil above. A small-sedge flush between the quarry and the road had Dioecious Sedge *Carex dioica*, Tawny Sedge *C. hostiana*, Long-stalked Yellow-sedge *C. lepidocarpa*, Common Butterwort *Pinguicula vulgaris* and Few-flowered Spike-rush *Eleocharis quinqueflora*. A total 15 sedges were recorded from the whole site.

As usual, the car park offered some of the more unusual finds including Grey Sedge *Carex divulsa* subsp. *divulsa*, a southern sedge with only a handful of previous records in Yorkshire, and Greater Cuckooflower *Cardamine raphanifolia* on the nearby River Ribble gravel.

BRYOLOGY (Tom Blockeel)

Bryophytes were recorded in three habitats: (1) in the fen vegetation by the pool at the eastern end of Dry Rigg Quarry and along the quarry embankment, (2) on the bog surface, and (3) in the wet woodland on Studfold Moss. The fen vegetation proved to be the richest, and we found a number of species that are restricted to open, base-rich mires. The mire here is presumably influenced by run-off from the quarry embankment. Much the most noteworthy record was *Moerckia flotoviana*, a rare liverwort that appears not to have been recorded in the vice-county since the 1960s. It occurred in an area where wet, bare calcareous soil was exposed. *Campylium stellatum*, *Ctenidium molluscum*, *Palustriella falcata*, *Scorpidium cossonii* and *Sarmentypnum exannulatum* were present in similar habitats nearby. *Calliergon giganteum* grew in a slightly different habitat, at the edge of the pool, where it would normally be part-submerged, but on this occasion was fully exposed. The bog vegetation was, unsurprisingly, in very poor condition because the drying of the peat surface had been exacerbated by the prolonged dry weather of recent weeks. *Sphagnum* hummocks were clearly under stress and many moribund capitula were noted. We recorded eight species in the genus, the most notable being *S. magellanicum*, but not as conspicuous as it normally is because its characteristic wine-red colour was masked by the dry conditions. The occurrence of small specialist bog liverworts is an indication of the quality of bog vegetation, and it was telling that we found only three such species, and all in small quantity in the wetter parts of the former peat cuttings: *Cephalozia connivens*, *Cladopodiella fluitans* and *Odontoschisma sphagni*. Nevertheless, the *Cladopodiella* was a good find as there are few records of it in the Dales. There is potential for these species to recover if re-wetting of the bog surface can be achieved. The wet woodland at Studfold Moss was notable for an

Figure 6 (see p214). Dry Rigg Quarry and Arcow Quarry activities over the years have revealed a spectacular Silurian/ Carboniferous unconformity.

abundance of *Climacium dendroides*, whose shoots resemble miniature palm trees. *Calliergon cordifolium* and *Plagiomnium ellipticum* were also present, and epiphytes on the sallows included *Metzgeria violacea*, *Orthotrichum pulchellum*, *Sanionia uncinata* and *Zygodon conoideus* with capsules. *Leskea polycarpa*, typically a riverside moss, was present on sallows in the ditches on the periphery of the bog. In total we recorded 78 species, a good number as we did little recording in ruderal habitats and none by the River Ribble.

PLANT GALLS (Tom Higginbottom)

From the photographs taken on the day and presented by Ken White, the following galls were identified:

Dasineura urticae on Nettle *Urtica dioica*: a midge galler. *Andricus curvator* on Pedunculate Oak *Quercus robur,* caused by a gall wasp, this gall often appears on new leaves in the spring but remains throughout the summer.

Triphragmium ulmaria on Meadowsweet *Filipendula ulmaria*: a micro fungus that often appears early on the new leaves.

Coltsfoot Rust Gall *Puccinia poarum*, a heteroecious parasite that is dependent on two hosts to complete its life cycle (the 2nd host being grasses); infections were found growing on Coltsfoot *Tussilago farfara* on the Dry Rigg Quarry spoil.

ODONATA (Ken White)

The cool early morning allowed close approach of adults basking in the sunshine. Around the mire pools there was a scattering of Common Blue Damselflies about, many in copulating wheel positions, and the occasional Large Red Damselfly. Dragonflies here included a Broad-bodied Chaser *Libella depressa,* and the Tinker's Gate ditch in Studfold Moss provided a sunny shelter for a newly emerged Golden-ringed Dragonfly *Cordulegaster boltonii.* The common but beautiful Emerald Damselfly was abundant around the quarry pond.

The overall impression was one of a lack in abundance of anything, possibly caused by the recent dry weather.

LEPIDOPTERA - Moths (Charles Fletcher)
Several MV and actinic traps were set up across the site on Friday night and the catches were examined on the Saturday morning. The night was a little clearer and colder than expected, so the catch was not large, however, several interesting moths were found. The final total of species recorded was 113. Forty of them were new for this site and 11 were new for the hectad SD86.

Macrolepidoptera included three Oblique Carpets and a Satyr Pug, both being local in the county. Several moths typical of upland grassy areas were found, such as Light Knot Grass, Lempke's Gold Spot, Heart and Club and Confused. Seven Fen Square-spots were found; this single-brooded cousin of Small Square-spot is now being increasingly recognised in upland areas. Gold Swifts were seen lekking at dusk when setting the traps and also came to light. In the car park at Helwith Bridge, 16 Latticed Heaths and a Blackneck were seen flying by day.

Several interesting microlepidoptera were recorded, including 25 examples of *Aphelia unitana,* which is provisionally listed as Nationally Scarce A but is proving to be commoner than expected in some upland areas. Other infrequently recorded micros included *Bryotropha politella*, *Acleris caledoniana*, *A. comariana* and *Orthotaenia undulana*. Several *Glyphipterix thrasonella* were netted in rushy areas and mines of *Phyllonorycter viminiella* were found on Grey Willow (the adults were bred out to confirm the identification).

LEPIDOPTERA - Butterflies (Terry Whitaker)
Twenty two species of butterfly are known from Swarth Moor, mainly recorded from a butterfly recording transect set up in 2003 to monitor the Small Pearl-bordered Fritillary, an iconic and declining insect. During the 2018 season the Small Pearl-bordered Fritillary was more abundant than for all years since 2013 but still only half as abundant as the years 2004-2006.

During the excursion by the YNU ten species were encountered: Small Skipper, Large, Green-veined & Small Whites, Small Pearl-bordered Fritillary (Fig.7), Dark Green Fritillary, Red Admiral, Meadow Brown, Ringlet and Small Heath.

Figure 7. Small Pearl-bordered Fritillary on Marsh Cinquefoil at Swarth Moor. *K.White*

FRESHWATER BIOLOGY (Peter Flint & Sharon Flint)
The lepidopterists had set several light traps overnight but the catch of caddis-flies, which the Freshwater Section was particularly interested in, was very poor. The best caddis of the day was the uncommon *Limnephilus elegans*, associated with fens and raised bogs, which has been recorded here only once before. Water levels were very low due to the hot dry early summer, but we did find a few water beetles including a fine specimen of the Great Diving Beetle *Dytiscus marginalis*, a widespread and common insect but always nice to see.

BIRDS (Ken White)
On the previous day within the immediate environs of the raised mire it was pleasing to find two singing Reed Bunting, Bullfinch, a very agitated pair of Curlew, the odd Stonechat and Teal, but on the day of the excursion they were not found; overall the site is probably too small for them to cope with the level of human disturbance on the day of the excursion – and probably on most weekends in the summer. More birds were found around the periphery, adding up to a total of 39 species over two days. Willow Warbler and Goldfinch were singing from the scattered birches, a pair of vociferous Oystercatchers protested from the Dry Rigg Quarry bund. Meadow Pipits and Carrion Crows were feeding newly fledged young, juvenile Moorhens were found on the pond while Sand Martins actively fed over the pond to feed young in the nesting colony inside the quarry, and fledged juvenile Blue Tits were found in the nearby willows.

Other evidence of breeding included a broken Pheasant eggshell and a wing of an unlucky juvenile Starling. The lepidoptera group scooped some crepuscular birds with Barn Owl, Tawny Owl and even a calling juvenile Long-eared Owl, as well as an early morning Cuckoo. The Ribble riverside reassuringly supported all three hirundines, as well as Swifts, Dipper and Grey Wagtail. Peregrine alarm calls were heard from their high cliff ledges above the quarry.

MAMMALS (Ken White)
Two Brown Hares were found on the raised mire as well as the occasional Rabbit around the edges. In places patches of molehills indicated active colonies of Moles. Roe Deer are commonly seen on the mire area.

CONSERVATION
Honour & Lupton, in 2004, noted the drying out of the Swarth Moor raised bog and consequent change in the vegetation and made various recommendations to prevent this as well as the inclusion of the small-sedge flush community in the south west margin of the site to the SSSI area. The Natural England & the IDLP restoration project in 2015 specified the reshaping of the domed mire and blocking of grips to restore the raised bog development process, but nothing has yet been started. The summer of 2018 was long, hot and dry, exacerbating the recent drying out of the mire, confirmed by the details of the botanical, bryological and freshwater reports above. The planned restoration is long overdue and will undoubtedly benefit the flora and invertebrate fauna when it finally gets completed. Providing an adequate hydrological status will be vital to its success.

ACKNOWLEDGEMENTS
A vote of thanks was offered to Colin Newlands of Natural England and to Mik Cardus of LaFarge Tarmac (Dry Rigg Quarry) for their help in granting access to the site, and to Terry Whitaker in all the preparation and planning for the day.

Combe Scar SSSI (VC65) 7 July 2018

INTRODUCTION (Terry Whitaker)
The meeting suffered a poor attendance ascribed to the extremely hot weather and the counter attractions of the Football World Cup Final. The eight members of four affiliated societies in the Yorkshire Moth Group who trapped extensively on the Friday night out-numbered the number of people able to attend on the Saturday (five, of three affiliated societies).

The site is of importance for the range of plant communities developed on the cliff ledges and screes, which are uncommon on these rock types, and those associated with the flushes and springs, which are amongst the most extensive and diverse found in this area. Below the cliffs are screes with diverse pteridophyte assemblages and a large boulder field with stands of Male Fern and large Scaly Ferns under the occasional large mature Ash and small Rowan trees. There are heathy grasslands on the steeply sloping ground which contain a mixture of Common Bent *Agrostis capillaris*, Sheep's-fescue *Festuca ovina*, heather, bilberry and Mat-grass *Nardus stricta*. In places, however, these grasslands are more base-rich and develop a sward of bent-fescue grassland. At the base of the screes, above and below the allotment wall, the streams emerge again as base-rich springs and flushes in a variety of structural forms with dripping banks of vegetation, open muddy pools, sedge lawns and some open stony and shallow streams. Lower down the community also shows trends towards slightly more acidic conditions where plants such as Bulbous Rush *Juncus bulbosus*, Common Cottongrass *Eriophorum angustifolium* and the bog moss *Sphagnum auriculatum* are more frequent and form a small rushy mire either side of the outflow streams. Trees of all sizes (mainly Hawthorn, Ash and willows) dot the site and form denser patches of open scrub woodland (Fig.8, p220).

FLOWERING PLANTS (Deborah Milward)
Combe Scar SSSI is well known for its long list of plants. The small area of probably less than 200m square searched below Combe Scar yielded well over 100 plant species. The six rushes recorded in the marshy area included Blunt-Flowered Rush *Juncus subnodulosus*, less frequently found in the Pennines, but it was the stunning display of the yellow Marsh Birds-foot Trefoil *Lotus pedunculatus* which caught the eye; close by was abundant Marsh Violet *Viola palustris* mixed amongst the rushes. Drier parts of the cattle grazed pasture had abundant Betony *Betonica officinalis*, Yellow Rattle *Rhinanthus minor* and Devil's-bit Scabious *Succisa pratensis* and, still evident on the scrub areas on the west of the site, Wood Anemone with Heath Grass *Danthonia decumbens*, ling and bilberry.

Eleven sedges were recorded, including the two tiny ones - Dioecious Sedge *Carex dioica* and Flea Sedge *C. pulicaris* - both found in a calcareous flush emerging below the scar. However most were more acidic with quantities of Bog Asphodel *Narthecium ossifragum*. This juxtaposition of the contrasting water flows was epitomised where Bird's-Eye Primrose *Primula farinosa* and Lesser Clubmoss *Selaginella selaginoides* grew within a foot of the Bog Asphodel.

A similar contrast was seen in the fern community with a strong colony of Limestone Polypody *Gymnocarpium robertianum* growing in the crevice of a limestone boulder and Parsley Fern *Cryptogramma crispa* established on a sandstone boulder. This latter fern is unusual even here in Yorkshire's most westerly vice-county. A large isolated boulder sported a heath community, protected from grazing (Fig. 9 p220).

Figure 8 (see p219). The Combe Carr site. *T. Whitaker*

Figure 9 (see p219). A heath community growing on an isolated boulder. *T. Whitaker*

Figure 10 (see p221). One of the Mercury Vapour (MV) moth traps, positioned in a tree. *T. Whitaker*

ODONATA (Terry Whitaker)

Only three were seen; Common Blue Damselfly with the occasional Large Red Damselfly and two Golden-ringed Dragonfly.

LEPIDOPTERA - Butterflies (Terry Whitaker)

As this is an upland site, mostly over 300m (1,000 feet), the list of butterflies expected in the area is rather short, but the majority of the common (wider countryside spp.) were seen during the meeting or during the preliminary visit on 27 June. The eleven butterflies seen was a good number: Small Skipper, Small White, Large White, Green-veined White, Common Blue, Red Admiral, Meadow Brown, Ringlet and Small Heath. The commonest butterfly was the Ringlet although its numbers were down from the June visit, overtaken by Meadow Brown. Two site specialists were also recorded - Small Pearl-bordered and Dark Green Fritillary. It is good to see that the former is still present, the first records from the site since 2013. This is now the only

extant VC65 site after the destruction of the Rise Hill Tunnel Portal grassland in 2016 (Whitaker, 2008).

LEPIDOPTERA - Moths (Charles Fletcher & Terry Whitaker)
During preliminary visits and on the day, other than the innumerable crambid micro-moths, mainly *Agriphilla tristella*, the Chimney Sweeper was among the most numerous of day-flying moths, although large numbers of Straw Dot and Barred Straw were also seen. Several MV and actinic traps were set up in various places across the SSSI on the Friday night. Cows were present on much of the site and attempts to prevent them interfering with the traps involved much ingenuity and lugging of generators and trapping equipment up hills, over walls on to the tops of rocky outcrops and part way up a tree (Fig.10 p220). The exercise was successful, the cows were thwarted and traps were opened and the catches examined on the Saturday morning.

Approximately 100 species were recorded and, as no proper moth trapping had ever taken place at this SSSI, 92 of these were new for the site. 87 were new for the hectad SD68, although this square extends into Cumbria and many may have been recorded in the Cumbrian part of the square. Several interesting upland moths were recorded. Red Carpet was new to several observers and it was good to see Grey Mountain Carpet, which has become much less common in the county in recent years. Six Ling Pugs, the smaller, greyer and upland version of Wormwood Pug, were found. Other notable macro moths included Scarce Silver Y, Haworth's Minor, Confused and Fen Square-spot.

Amongst the microlepidoptera, the most notable moth was *Bryotropha boreella*. All previous county records are from the west of VC64 so this was the first for VC65. The larvae feed on upland mosses and it is provisionally designated Nationally Scarce B. Other interesting ones included *Depressaria pulcherrimella*, *Eudonia murana*, *Coleophora discordella* and *Opostega salaciella*.

AQUATIC INVERTEBRATES (Sharon Flint & Peter Flint)
Although the moth traps did not contain many river flies, twelve species of adult caddisflies from twelve families were taken at the meeting. The daytime field work was cut short due to the severe heat.

BIRDS (Jill Warwick & Dianne Smiley)
At least twenty species were noted. The star birds were a pair of Peregrines seen on several occasions along with a juvenile. It was nice to hear Green and Great-spotted Woodpeckers shortly after dawn. The tits (Blue, Great and Coal) were amongst the commoner passerines present and small flocks of Goldfinches were seen. Linnet is a declining moorland edge bird, but two were heard singing in the woodland near Combe House.

MAMMALS, REPTILES & AMPHIBIANS (Terry Whitaker)
A Brown Hare and signs of Moles and Fox (scats) were seen on the SSSI. On both visits a Grey Squirrel was seen. This is rather a pity as this remote location is in the middle of the area where they are being reduced by population control - a conservation measure to aid the Red Squirrel which is widely present in Dentdale and the Rawthey Valley. There was the occasional Common Lizard and a Common Frog was seen.

CONSERVATION

It was good to see that the vegetation was apparently in very good condition, a tribute to the grazier who appears to be managing it very sympathetically. This grazing regime was discussed and set up by English Nature in 2003 by Colin Newlands in consultation with Terry Whitaker.

Although Combe House was rebuilt and occupied in 2005, the vegetation of the land, which was considered at risk in 2003 from overgrazing by sheep and contracting work, had been altered by drainage and lack of grazing but is now generally very good and diverse with a large area of tree planting, showing promise for the future.

ACKNOWLEDGEMENTS

The group expressed thanks to the land owner, Mr. Jack Middleton of High Foulsyke, and Natural England for allowing access to the site and also the neighbouring residents at Combe House and Tofts for allowing access and parking on their land.

REFERENCES

Whitaker, T. M. (2008 unpubl.) *The Small Pearl-bordered Fritillary (Boloria Selene) in the Yorkshire Dales National Park, Craven outside the YDNP & adjacent areas.* Final Report 2008. Private report to the YDNPA, Grassington (Ref. No. S0176/PO003955) & Butterfly Conservation, East Lulworth (Ref. No. R30/PQU689), 30pp.

Spurn residential weekend (VC61) 21-22 July 2018

INTRODUCTION (Sarah White (SW))

This was a different sort of Excursion - a residential meeting similar to those which used to be held in the past. The last residential meeting was at Malham, held to celebrate the 150th anniversary of the YNU in 2011, but until then, there had been no residential Excursion since the Ingleborough Estate meeting in 1995. Spurn made an excellent residential venue as it is a long way from anywhere, so difficult to visit just for the day and there is a lot to discover and enjoy: one day is simply not enough! Moreover, there is superb accommodation at the new Spurn Bird Observatory, which was our base for the weekend.

Besides having more time to explore and record, the great advantage of a residential meeting is the social aspect of the event: we all very much enjoyed making new friends and sharing knowledge and expertise. A programme of guided events was organised, including moth trapping, dragonfly and bird walks, lichen and beetle surveys and a talk about the history and geomorphology of Spurn followed by a strandline walk. Reporting meetings were held on both days to pool our findings and we shared a pub supper on Friday and a BBQ (efficiently cooked by Jonnie Fisk at the Observatory) on Saturday.

The location of Spurn at the extreme south-eastern tip of Yorkshire, caught between the North Sea and the Humber, makes it a unique place to visit. Richard Middleton reminded me that the first YNU meeting to Spurn was in September 1884, when about 70 members made the crossing to the Point by steamer from Grimsby! Our group this time was more modest, with 13 residents, joined by another eight day visitors, representing a total of 16 affiliated societies. It

was a great group of people with enormous enthusiasm and expertise, and we all had a really fabulous time. We were also blessed with perfect sunny weather and a pleasant cool breeze.

The observations and records made during this YNU visit make for an interesting comparison with the reports of earlier visits by YNU members over seventy years ago (Hincks [ed.] 1951-54)

GEOMORPHOLOGY (Richard Middleton RM)

Although Yorkshire naturalists have long been aware of the high rate of erosion suffered by the boulder clay cliffs of Holderness, those who had not visited the area recently may have been surprised by the extent of the changes. An annual average retreat of over two metres per year, coupled with extensive removal of buildings and a breach in the sand-spit of Spurn where it joins the last, low fragment of the clay cliffs, have resulted in a significant change to the landscape character of Kilnsea Warren.

Figure 11. Rhomb-porphyry pebble found on Kilnsea beach. *R. Middleton*

A short walk along the sea shore of the Warren area revealed a thick sandy beach banked against the cliff, perhaps offering it a temporary respite from erosion, but the old groynes have now gone, leaving the beach unprotected and liable to be swept away by winter storms. On a positive note, the sand and shingle are free to continue their southward journey to re-build the peninsula. The beach pebbles were found to represent a rich variety of rock types and, like the sand, have been derived from wastage of the cliffs to the north; its fine matrix has been carried away in suspension in the sea and some will eventually be deposited in the estuary as Humber mud. Among the abundant local flints we found pieces of dolerite and blocks containing Carboniferous corals, perhaps remnants of the glacier which passed over the north Pennines through the Stainmore gap. Some small fragments of carnelian, with a Cheviot or Scottish origin, provided evidence of a North Sea ice sheet. Also picked up were pieces of rhomb-porphyry (Fig.11) and larvikite, both with a clear Scandinavian origin. Their long journey to Kilnsea may have been by a less direct route involving icebergs and ice-sheets, but there is a distinct possibility that the latter, now being found more frequently on Yorkshire beaches, may have resulted from attrition of the massive Norwegian boulders shipped over to form sea defences further up the coast.

LICHENOLOGY (Mark R. D. Seaward)

As commented in our paper (Seaward & Henderson, 1994), based mainly on a survey in 1994, the lichen flora is greatly influenced by dramatic physiographical changes to Spurn Point since most species are intolerant of disturbance. As well as these natural impacts, the lichen communities are also dictated by the human activity on the landscape, more particularly settlements, mainly associated in the past with the lighthouse, most of which have been abandoned. In consequence, many of the lichens currently recorded can be classed as 'poleophiles' (i.e. thriving in urban habitats). Lichens indicative of stable sand-dune systems are much diminished; *Cladonia* spp., for example, formerly composed of c.12 taxa (albeit reduced to 6 by 1994) are now rarely to be found at Spurn Point, and *C. rangiformis* appears to be mainly confined to calcareous sandy soils amongst abandoned buildings. Man-made structures, buildings, walls and paved areas

Images from the Spurn residential weekend (pp222-233).

Figure 12 (see p225). Strawberry Clover *Trifolium fragiferum.* *H. Kitson*

Figure 13 (see p225). Sea Milkwort *Glaux maritima.* *H. Kitson*

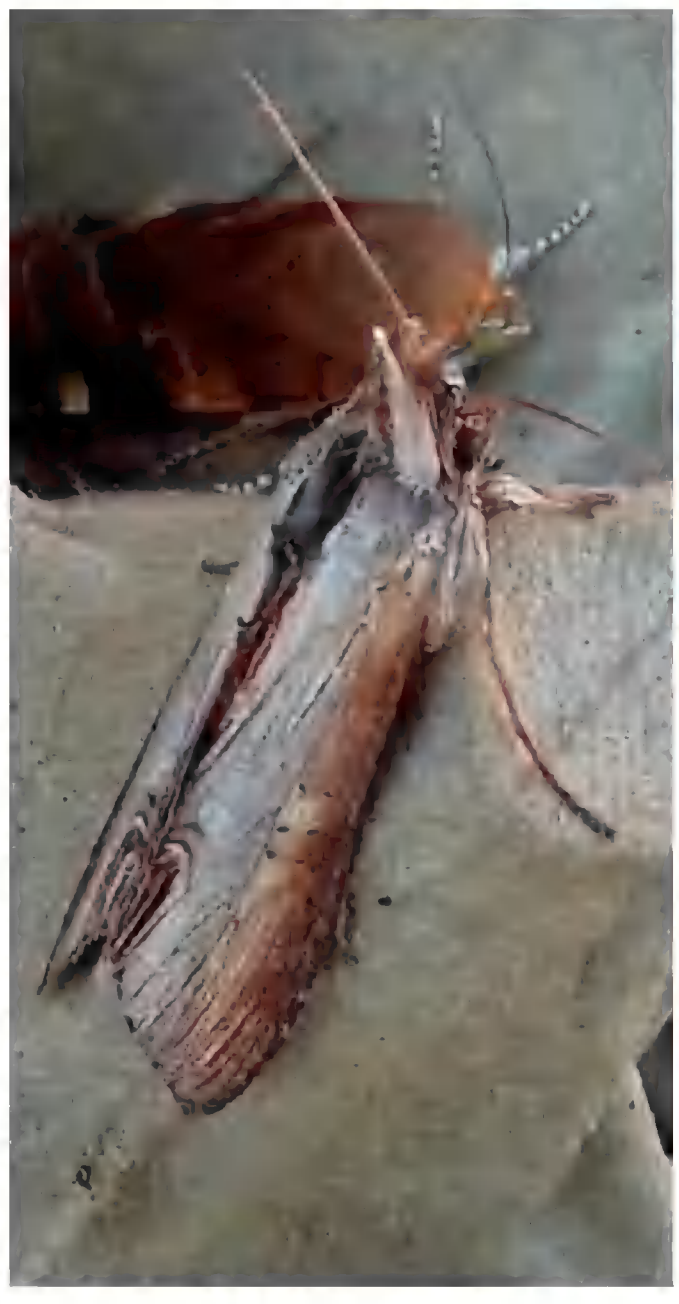

Figure 14 (see p229). Star-wort moth adult (left) and larva (above). *D. Whiteley*

Figure 15 (see p229). Barred Yellow moth, one of 171 species attracted to MV lamps at Spurn. *K. White*

were mainly peppered with thalli of *Aspicilia*, *Caloplaca* and *Lecanora* species; timberwork supported a few species including *Lecanora saligna*, and that used as vertical shoring material was clothed in *Caloplaca* aff. *suaedae* which, if confirmed, would be new to Yorkshire. A few shrubs and small trees supported a limited lichen flora including *Arthonia radiata, Lecanora chlarotera, Fuscidea lightfootii* and *Lecidella elaeochroma*.

FLOWERING PLANTS (Gabrielle Jarvis (GJ), Helen Kitson (HK), Sarah White & Richard Middleton (RM))

The botanists had the benefit of some fieldwork carried out in advance by the local expert, Peter Cook. Although he was unable to join us owing to a prior family engagement, he let us know the location of some of the typical plants of Spurn which provided the basis of our botanical recording. During the weekend, the major recording was undertaken by GJ and HK who listed an impressive total of 116 species. A particularly notable find was Strawberry Clover *Trifolium fragiferum* (Fig.12 p224), found on the edge of the ponds in Clubley's Field, by Kate Wright. Other highlights were the vigorously-regenerating suite of strandline plants at the north side of the breach where mobile sand had accumulated, including Sea Sandwort *Honckenya peploides,* Prickly Saltwort *Salsola kali*, Sea Rocket *Cakile maritima*, Grass-leaved Orache *Atriplex littoralis*, Spear-leaved Orache *A. prostrata*, Frosted Orache *A. laciniata* and Sea-purslane *A. portulacoides*. Beyond this, the saltmarsh vegetation included Common Sea-lavender *Limonium vulgare*, Sea Arrowgrass *Triglochin maritima,* Common Cord-grass *Spartina anglica* and occasional plants of Sea Aster *Aster tripolium.*

On the dunes south of the breach, near post 2, there was a fine display of Sea Holly *Eryngium maritimum* providing nectaring for large numbers of bees. Nearby was the attractive pink and white striped Sea Bindweed *Calystegia soldanella* as well as Wild Celery *Apium graveolens* and Perennial Wall-rocket *Diplotaxis tenuifolia.* A little further along, the special coastal grasses Sand Cat's-tail *Phleum arenarium* and the tiny Sea Fern-grass *Catapodium marinum* were found.

Below the Canal path, between the YWT centre and the Crown and Anchor, were good populations of both Distant Sedge *Carex distans* and Long-bracted Sedge *C. extensa* together with Sea Rush *Juncus maritimus* and Saltmarsh Rush *J. gerardii*. Wild Celery was also present in some quantity along the inland side of the canal, together with Sea Milkwort *Glaux maritima* (Fig.13 p224). On the estuary side we found the attractive silvery Sea Wormwood *Artemesia maritima*.

At the Warren, Duke of Argyll's Teaplant *Lycium barbarum* was growing beside the bungalow and Sea Rocket on the strand. While the short turf community here had suffered as a result of the recent demolition of various buildings, the bare sand was regenerating and hopefully may yet recover some of the plants from the seed bank.

Two stoneworts collected at Clubley's Pond were later determined by Nick Stewart as Common Stonewort *Chara vulgaris* and Delicate Stonewort *C. virgata* and at the Kilnsea Wetlands reserve the botanical highlight was frequent clumps of flowering Hairy Buttercup *Ranunculus sardous* growing along the path to the hide.

MOLLUSCA (Derek Whiteley (DW) & Andy Grayson (AG))
No conchological specialist attended the meeting and slugs and snails were rare in the hot, arid conditions.

The Common Garden Snail *Cornu aspersum* was found in the Warren area and the Brown-lipped Snail *Cepaea nemoralis* was widely present especially in the dunes down to Spurn Point. A large Leopard Slug *Limax maximus* was found under a large log at the high water mark of the saltmarsh. Interestingly, this appears to be a new hectad record of this common mollusc for the national atlas (Rowson *et al*. 2014), which also notes some other instances of salt tolerance.

ODONATA (Africa Gómez and Richard Shillaker)
Two dragonfly walks took place on 21 July 2018. Their main objective was to find evidence of breeding by observing copulation, egg laying or the presence of pre-flight emergents, by pond-netting for larvae and by searching for exuviae amongst emergent aquatic vegetation. Additionally, territorial males were recorded although they were not regarded as evidence of breeding. We surveyed, with permission from the Yorkshire Wildlife Trust (YWT), specific sites on the Spurn and Kilnsea Wetlands reserves. At Spurn we investigated the three shallow ponds forming Clubley's Scrape (middle pond at TA41821517). At Kilnsea Wetlands we surveyed the car park pond (TA40591683) and briefly investigated the ditch (TA40301634) at the base of the Humber bank near Chalky Point. Other sites visited included Church Field (pond at TA41081592) behind Spurn Bird Observatory, Corner Field (pond at TA41531578) near the Blue Bell, Canal Scrape (viewed from the bird hide) and the Canal Scrape area. Owing to the recent persistent hot dry weather, water levels were low throughout and a few ponds were completely dry.

For comparison we have referred to historic and modern records of Odonata from the Spurn area and, in particular, to reports in *The Naturalist* by YNU Entomologists after their regular summer expeditions to Spurn over the period 1947-1953 (Hincks 1951-1954).
We recorded a total of eleven species and obtained definite evidence of breeding for the following six:
Common Blue Damselfly *Enallagma cyathigerum,* Blue-tailed Damselfly *Ischnura elegans*, Emperor Dragonfly *Anax imperator*, Four-spotted Chaser *Libellula quadrimaculata*, Black-tailed Skimmer *Orthethrum cancellatum* and Common Darter *Sympetrum striolatum.*

Of the non-breeding observations, the presence of an immature Small Red-eyed Damselfly *Erythromma viridulum* (Clubley's Scrape) was particularly welcome as it was the first Spurn record since 2013 (unpublished Spurn Dragonfly list by Daniel Branch). The absence of records for this damselfly from Spurn since then has been attributed to reed encroachment and increased salinity following the December 2013 storm surge. However, this small damselfly is easily overlooked because of its habit of perching on floating weed well away from the edge of a pond.

Emerald Damselflies *Lestes sponsa* were present at Clubley's Scrape, Corner Field and Church Field Pond. An immature Migrant Hawker *Aeshna mixta* was seen near Clubley's Scrape. An Azure Damselfly *Coenagrion puella* was found at the new pond in the Spurn Bird Observatory Garden and a mature male Ruddy Darter was spotted in a dry pond at Corner Field.

We were disappointed not to find any Red-veined Darters *Sympetrum fonscolombii*, a frequent migrant to the UK which has bred at Spurn; 2017 was a particularly good year for sightings in the Spurn area. We were also unlucky to have missed the first Spurn sighting of a Southern Migrant Hawker *Aeshna affinis*. A male was seen patrolling the Canal Zone the following Wednesday (unpublished report by Daniel Branch); this is believed to be only the second Yorkshire record.

It is notable that three of the Odonata we found (Small Red-eyed Damselfly, Emperor Dragonfly and Black-tailed Skimmer) were not recorded at Spurn by YNU Entomologists during their 1947-1953 visits (Butler & Popham 1954, Hincks 1951-1954, Hincks & Shaw 1954). This is consistent with the more recent colonization of South-east Yorkshire by these species (Ashton, 2013). YNU Entomologists did, however, record both Emerald Damselfly and Scarce Emerald Damselfly *Lestes dryas*. Hincks (1951) thought it interesting that two members of the same genus were flying together in the same restricted habitat. The colony of Scarce Emerald subsequently died out, with the last recorded sighting in 1952 (unpublished Spurn Dragonfly List by Daniel Branch).

We wish to thank the Yorkshire Wildlife Trust for allowing access to ponds for the dragonfly walks and in particular to Andrew Gibson for his assistance at Kilnsea. We are very grateful to Daniel Branch for sharing his unpublished reports on Spurn Odonata.

HEMIPTERA (Derek Whiteley)

The stick bug *Chorosoma schillingi* was swept in good numbers from the bare ground at Easington lagoons and another from the dunes at Spurn. It has the appearance of a small pale stick insect. The striking red and black *Corizus hyoscyami* was also swept from the Spurn dunes. This is a handsome bug, traditionally coastal but recorded inland on brownfield sites quite frequently these days.

COLEOPTERA - BEETLES (Colin Welch (CW) & Derek Whiteley (DW))

95 species of Coleoptera, including 12 new to the area list, were recorded by CW with help from DW. Many had not been recorded for many years.

It is 55 years since CW last visited Spurn Head, at the same time of year, with a group of YNU entomologists carrying out a follow-up survey to the earlier one edited by W.D. Hincks (1951, *Naturalist* 76) and the first to be permitted access to the former military area on Spurn Point. Previously unpublished records from that survey were incorporated into Mike Denton's *The Beetles of Spurn Peninsula* (1995, Yorkshire Museum). I have used this, and his subsequent 4th & 5th Supplements, to assess how many of this year's captures are possibly new records for Spurn Head.

I was interested to see what changes had occurred to the beetle fauna and the physical environment, particularly since the tidal surge breakthrough in 2013. Access to the Point is now more difficult but public pressure appears to have greatly increased throughout the peninsula. This is probably responsible for the reduction in driftwood and tidal debris on both sandy shorelines. Several species of beetle confined to this habitat, mainly small Staphylinidae, were not found during this visit although a few larger species were still present. There has also been a marked increase in Sea Buckthorn and other shrubs, particularly on dunes on the Point. Despite this deterioration, a total of 95 species were recorded, of which 12 appear to be first records from the Spurn Peninsula. Following confusion over a group of closely related

Staphylinidae, *Aleochara bipustulata* is re-instated on the list. There appear to be no recent records for a further 15 species found.

The following 12 are the new species.
From south of the road from The Crown & Anchor and The Blue Bell:
CARABIDAE *Harpalus aenus* 4 under driftwood.
SILPHIDAE *Phosphuga atrata* 1 under driftwood, *Silpha tristis* several in dunes, 1+ larva under driftwood & seaweed.
COCCINELLIDAE *Halyzia sedecemguttata* 1 under driftwood.
CHRYSOMELIDAE *Apteropeda globosa* 1 south of Cliff Farm.
APIONIDAE *Protapion assimile* 1 on clovers south of Cliff Farm.
CURCULIONIDAE *Mecinus pascuorum* pair swept beside road at the Point.

From Easington between Boatyard & New Bank:
CARABIDAE *Agonum marginatum* 1 running on sand.
STAPHYLINIDAE *Anotylus complanatus* 1 in pony dung.
CHRYSOMELIDAE *Altica lythri* numerous on willowherbs by New Bank.
APIONIDAE *Protapion trifolii* 1 sweeping clovers south of Boatyard.
CURCULIONIDAE *Sitona lineellus* pair on New Bank by Beacon Ponds.

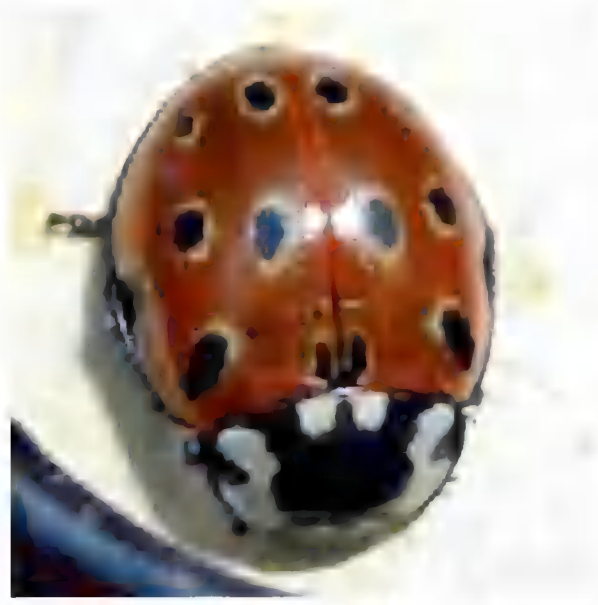

Figure 16. Eyed Ladybird *Anatis ocellata* found by DW. *J. Simmons*

The full list of the 95 Coleoptera recorded during this meeting at Spurn is available as an appendix at https://www.ynu.org.uk/naturalist.

HYMENOPTERA (Derek Whiteley & Andrew Grayson)
Spurn is well-known as an excellent site for aculeates (Archer 2002) but no specialist was present at the meeting. A few casual records are reported here. The Black-thighed Epeolus *Epeolus variegatus* was found in good numbers at Easington Dunes. A southern heath and coastal species on the edge of its range on the eastern side of England, it is a cleptoparasite of *Colletes* bees. Several bumblebees were noted, including observations of the recent European colonist the Tree Bumblebee *Bombus hypnorum* and the Hill Cuckoo-bee *B. rupestris*. Both would have been very interesting county finds only a few years since but are now so common as to warrant usually being excluded from reports of field meetings.Tree Bumblebees were seen nectaring on Sea Holly. It was new to Britain in 2001 but has shown a remarkable rate of spread since then to become one of our most familiar bumblebees. A vespid wasp *Ancistrocerus trifasciatus* was found in the Corner Field at Spurn.

On the Easington dunes DW collected a female *Cremastus spectator*, which is a new ichneumon to Yorkshire. He also collected one female and three male *Lissonota (Loxonota) histrio*; this is the second Yorkshire record, the first was collected at Spurn Point 70 years earlier by Douglas Hincks (Hincks 1951-54 [as *L. parallela*]). One of DW's specimens has gone to join Douglas's one in the Manchester Museum collection. One female *Itoplectis melanocephala* is the fifth Yorkshire record and one female *Clistopyga rufator* is the ninth.

LEPIDOPTERA - Moths (Jill Warwick , Terry Whitaker (TMW), Jonnie Fisk (JF))
Like the beetles list, the list of moths recorded from Spurn is impressive and one of the longest site lists of Yorkshire Lepidoptera, with 520 species of macro-moths and 490 species of micro-moths recorded in the 10km square by 2017.

A comprehensive list was first compiled by Michaelis (1951). This listed 360 spp. (Butler & Hincks, 1954) but, in the 67 years since, there has been continual and extensive moth trapping and recording, especially by Barry Spence. The Bird Observatory area in Easington had recorded 324 confirmed species to 2018 (115 micro-moths and 209 macro-moths). Three mercury vapour moth traps were run overnight on the Friday and Saturday nights of the excursion and yielded large numbers, so many in fact that on the Sunday morning the numbers in one of the m/v traps were not counted, only the presence of each species. Even so, over 1,600 moths were counted and c.171 species (76 micro-moths and 95 macro-moths) were recorded (e.g. Barred Yellow; see Fig.15, p224). As expected, no species new to Spurn were found.

One of the many highlights for the lepidopterists was an adult specimen of the Nationally Scarce B Star-wort found in a trap. DW later found its larvae at Easington Lagoons - swept from Sea Aster in quite large numbers (see fig.14 p224). Other Nationally Scarce B moths included Cream-bordered Green Pea and two pyralids *Platytes alpinella* and *Dioryctria sylvestrella,* which could be a migrant. Another Nationally Scarce B was the Crescent Striped, an uncommon and very local Yorkshire resident, rarely seen far from its Spurn Point stronghold. It was also nice to see a specimen of another regionally local moth, the Least Carpet, which was first recorded in Yorkshire from Kilnsea in 2006 and has been expanding its range from its stronghold in the Thames Valley. It is now reported from a few sites on the east coast of VC61.

Day flying moths were much in evidence but were mainly the migratory Silver Y. They were present in such abundance on Spurn Point that Gulls were attracted to feed on them as they battled the updrafts over the seaward dunes. The attractive Six-spot Burnet was widely seen in the dunes near patches of its food plant, Birds-foot Trefoil *Lotus corniculatus,* as was another aposematic day-flying moth, the Ragwort-feeding Cinnabar whose larvae were also seen. A solitary migratory Hummingbird Hawk-moth was seen by AG on the strandline near the Spurn Discovery Centre.

LEPIDOPTERA - Butterflies (Terry Whitaker)
A remarkably large number of butterflies were reported, 18 species: Large Skipper, Small Skipper, Essex Skipper, Large White, Small White, Green-veined White, Common Blue, Holly Blue, Peacock, Comma, Red Admiral, Small Tortoishell, Painted Lady, Meadow Brown, Ringlet, Gatekeeper, Speckled Wood, Small Heath. The commonest was the Small White (almost certainly recent immigrants) and then Meadow Brown. Small numbers of the spreading Essex Skipper were positively identified between Spurn Point to Kilnsea and counts by TMW & DW showed about ten Small to one Essex Skipper. In addition, a sighting at Spurn Point was suspected of being a White Admiral but TMW could not get close enough to confirm.

DIPTERA (Derek Whiteley & Andrew Grayson)
The estuarine and coastal habitats at Spurn are scarce habitats in Yorkshire as a whole, as inevitably are many of the invertebrates associated with them. These include the hoverflies *Eristalinus aeneus* and *Platycheirus immarginatus*. Other interesting hoverflies included

Helophilus trivittatus and good numbers of the migratory *Scaeva pyrastri* but all were outnumbered by a huge population of Marmalade Hoverflies *Episyrphus balteatus,* presumably swollen by migrants.

One of the highlights was a nice assemblage of 'aquatic strats' or soldierflies associated with wetlands. The large, handsome Flecked General *Stratiomys singularior* created the most excitement, found at Corner Field and Clubley's Pond. It is a fairly scarce coastal brackish water species. The brand new national atlas (Harvey, 2018) illustrates only pre-1980 dots for the Spurn area, so these could be the first records for over 40 years. Others included the Barred Snout *Nemotelus uliginosus* and the Flecked Snout *N. notatus.*

Easington dunes and lagoons had the large Dune Robberfly *Philoncus albiceps* in good numbers. The Striped Slender Robberfly *Leptogaster cylindrica* has the appearance of a miniature damselfly; although common, it is a new post-2000 record for Spurn (Harvey, 2018). Another regional scarcity, the robberfly *Philonicus albiceps*, was present on exposed sand along the strandline between the Spurn Discovery Centre and the Crown and Anchor public house in Kilnsea. A number of *Chrysops relictus* horseflies were also encountered on the strandline north of the Spurn Discovery Centre.

Emergent vegetation around the lagoons held large numbers of very attractive picture-wing flies in the family Ulliidae - *Ceroxys urticae, Melieria omissa* and the saltmarsh species *M. picta*. The latter is at the northern edge of its British range. A fourth species *Herina longistylata* (= *lugubris*) was common on emergent vegetation at Clubley Pond and found along the strandline between the Spurn Discovery Centre and the Crown and Anchor public house in Kilnsea. Picture-wing flies in the family Tephritidae (sometimes known as gall flies) were also well represented at Spurn. The coastal *Campiglossa plantaginis* was abundant, associated with its host plant Sea Aster. Highlight of the day was *Tephritis divisa,* a handsome fly with very distinct wing markings and associated with Bristly Oxtongue. It is a new colonist of south-east England but is spreading quite rapidly. The latest national atlas (Clemons, 2018) shows the nearest record on the coast of east Norfolk. The specimen from Easington Dunes appears to represent a big extension northwards and is new to Yorkshire. A full list of AG's records is available as an Appendix at https://www.ynu.org.uk/naturalist.

FRESHWATER ECOLOGY (Sharon & Peter Flint)

On our first evening we helped JW and Jonnie Fisk (JF) the assistant warden, to put out light traps in the garden to attract moths and other insects. The morning opening saw masses of moths but adult caddisfly numbers were very low and only two species were recorded from the traps over the weekend, *Limnephilus marmoratus* and *Glyphotaelius pellucidus*. We did sweep an adult *Holocentropus picicornis* (family Polycentropodidae) from the garden vegetation on the first evening and on investigating the newly built pond in the observatory garden, found good numbers of juveniles. This caddisfly has very distinct head markings and can be readily identified in the field. The pond also yielded a beautiful dytiscid beetle *Dytiscus circumflexus* (fig.17 p232), often found in slightly brackish coastal waters. It has also been recorded from some inland acidic and oligotrophic sites.

The weather had been exceptionally hot and dry for a few months and we were not able to locate any running water habitats. A few of us joined up for the dragonfly walk and sampled

some of the ponds across from the new YWT visitor centre. Here we found many juvenile caddisflies *Agrypnia pagetana* making their cases from the aquatic vegetation. We were kindly given permission to investigate some other ponds and found many water beetles and bugs and all the ponds we investigated had very good populations of dragonflies and damselflies.

The final day saw us joining up with botanists and birders of the group for a walk along the 'canal' at the rear of the YWT visitor centre along the coast. Here, SW showed us some of the grasses and sedges, along with other plants growing along the coastal path, along with a very pretty aquatic macrophyte, Fennel Pondweed *Potamogeton pectinatus*. We all really enjoyed our stay and had great fun together, exchanging natural history observations, both at the indoor meetings at the visitor centre and at the Spurn Bird Observatory. We all thoroughly enjoyed our evening meal at the Crown and Anchor on the first evening and the very tasty barbeque at the Spurn Bird Observatory on the Saturday night. The accommodation was excellent.

OTHER ARTHROPODS (Derek Whiteley)

The common spotted snake millipede *Proteroiulus fuscus*, found in a piece of dead wood at Easington, is a new hectad record for the national atlas (Lee, 2006). Woodlice included a very large colony of Common Pill Woodlouse *Armadillidium vulgare* under driftwood. There are old records of the Dune Pill Woodlouse *A. album* but despite diligent searching it proved elusive on the day. *Lithobius forficatus* was the only centipede reported.

BIRDS (Ken White)

Members attending either for the day or the weekend were treated to a blend of some breeding birds still singing, such as Sedge and Reed Warblers; early migrants on the move such as Marsh Harrier, Swallow and Swift; lots of juvenile birds, some such as Cuckoo and Dunlin fully independent, while others such as Avocet and Sandwich Tern were still dependent on parental care and feeding respectively; and non-breeding birds returning from the high arctic, for example Sanderling, Knot and Bar-tailed Godwit.

A total of 85 species were identified over the weekend from the Kilnsea Wetlands in the north to the tip of Spurn to the south. The most numerous bird by far was Dunlin, many still sporting their breeding plumage and whose constant shifting around in wonderful swirling flocks made it difficult to assess numbers, but a total of around 3,000 was estimated. There was a good presence of juvenile Dunlin accompanying the adults; amazing to think that these young birds, already on migration and independent, might only have been hatched around six weeks before! Also present were Knot and Bar-tailed Godwit in truly spectacular full breeding colours. We were also treated to about 25 full breeding-plumaged Golden Plover, presenting their strikingly jet-black underparts as they flew overhead. There were some Curlew out on the intertidal mud and Whimbrel were easy to detect with their unique seven-note rippling flight call, starting with one bird on Saturday, and then a flock of 20 or more on Sunday.

Beacon Lagoons held huge numbers of vociferous Sandwich Terns, perhaps 750 or more, the majority of which were juveniles still being fed by accompanying parents. One of the highlights of the weekend was the evening departure of these terns, all heading for the estuary in a long, straggling, croaking line, silhouetted memorably against the setting sun. Observatory staff told us that very few Sandwich Terns manage to breed at Spurn, so the vast majority of these birds had arrived from further north. Sadly, the first broods of the Little Tern colony at Beacon

Lagoons had been unsuccessful, although they appeared to be attempting a second brood. Along the water's edge with them were Common Tern and their juveniles and, on the Sunday, an immature Black Tern was an interesting addition. Of the five species of gull present, most birders were looking for the rarer Mediterranean Gull, whereas attendees from Berkshire found the Common Gulls of more interest, as these are absent from the south of England until the winter season starts.

All the while, endless numbers of Swallows were present, feeding low over the meadows and ponds. Some groups that were slowly drifting south presumably contained first brood juveniles with their shorter tail streamers, while other juveniles were still being fed on the wing or were perched up in advantageous points. Juvenile Sand Martins were amongst a large group of roosting hirundines in the dense scrub area just south of the Coastguard Lookout on the southernmost tip of Spurn, basking in the Saturday afternoon sunshine. Also in the meadows, Yellow Wagtails made their presence felt with their constant flight and contact calls. It was pleasing to see family groups of Linnets dotted around the whole of Spurn, comforting indeed that at least here they are able to successfully rear their families, and contribute to the overall feeling of well-being that Spurn provides a great range of habitats for nesting, resting, feeding and migrating birds.

Figure 17 (see p230). *Dytiscus circumflexus* from Spurn Bird Observatory pond. *S. Flint*

MAMMALS, REPTILES & AMPHIBIANS (Sarah White)

Brown Hare, Grey and Common Seals were seen and a Badger footprint was found in wet ground near Clubley's Pond. A dead Roe Deer was seen on Spurn Point. There were also frogs, toads, Palmate Newts and the occasional Common Lizard.

ACKNOWLEDGEMENTS

The staff of the new YWT Discovery Centre generously allowed us to use its Education Room for our meetings and provided a special trip down to the Point for us in its Unimog. We would like to record our grateful thanks to both the Observatory and the Yorkshire Wildlife Trust for their help and hospitality.

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Sutton Bank (VC62) 18 August 2018

Figure 18 (see p234). Lake Gormire, at the base of Sutton Bank *A. Grayson*

INTRODUCTION (Tony Wardhaugh)

Eleven members from ten affiliated societies attended the meeting. Areas visited included part of the Cleveland Way footpath south of Sutton Bank, Garbutt Wood YWT reserve and Lake Gormire. The concluding meeting was held at the Sutton Bank National Park Centre.

FUNGI

Fungi noted by the group included Birch Polypore *Piptoporus betulinus*, Dryad's Saddle *Polyporus squamosus* and Scarletina Bolete *Boletus luridiformis*, the last by Lake Gormire (SE503830).

FLOWERING PLANTS (Gill Smith)

In the morning we walked south along the Cleveland Way. On top of the cliff is an area of mixed heathland and woods, mostly oak, Rowan *Sorbus aucuparia* and birch with some fine old apparent coppices of birch and Hazel *Corylus avellana*. The ground flora included typical heathland plants such as Ling, Bilberry and Heath Bedstraw *Galium saxatile* along with several yellow composites such as Common Catsear *Hypochaeris radicata*, Autumn Hawkbit *Scorzoneroides autumnalis*, Rough Hawkbit *Leontodon hispidus* and Wall Lettuce *Mycelis muralis* - but no hawkweeds (*Hieracium* spp.) were seen. Along the path beside the gliding club were common wayside grasses such as Cock's-foot *Dactylis glomerata* and False Oat-grass *Arrhenatherum elatius*, along with Rosebay Willowherb *Chamerion angustifolium*, Bird's-foot Trefoil *Lotus corniculatus*, Yarrow *Achillea millefolium*, Harebell *Campanula rotundifolia* and Hedge Parsley *Torilis japonica*, one or two fruiting spikes of Common Spotted Orchid *Dactylorhiza fuchsii* and one small patch of Common Sedge *Carex nigra*. We also found Male Fern *Dryopteris filix-mas*, Scaly Male Fern *D. affinis*, Lady Fern *Athyrium filix-femina* and Broad Buckler-Fern *D. dilatata*. I was surprised not to find more woodland plants on the downhill side - just a few specimens of Wood Sage *Teucrium scorodonia* and False Wood-Brome *Brachypodium sylvaticum*.

After lunch we headed north along the Cleveland Way and then down through Garbutt Wood to Lake Gormire (Fig.18 p233). Garbutt Wood is predominantly an oak wood and both Sessile *Quercus petraea* and Pedunculate Oaks *Q. robur* were present as well as evidence of hybridisation between them; other trees included Ash *Fraxinus excelsior*, Field Maple *Acer campestre*, Holly *Ilex aquifolium* and Hazel. It is an ancient woodland on a steep slope. There was a rich ground flora and we saw several ancient woodland indicators including Dog's Mercury *Mercurialis perennis*, Wood-Sorrel *Oxalis acetosella*, Bluebell *Hyacinthoides non-sctripta* and Yellow Pimpernel *Lysimachia nemorum* along with Hairy St John's-wort *Hypericum hirsutum*, Wood-sedge *Carex sylvatica*, Wood Meadow-grass *Poa nemoralis* and Wood Melick *Melica uniflora*, and I am sure others such as Wood Anemone *Anemone nemorosa* would be seen earlier in the season. A particular highlight was finding two plants of Bloody Cranesbill *Geranium sanguineum* on the steep rocky slopes in the wood. We also saw both violet (probably Common Violet *Viola riviniana*) and Wood-Sorrel producing seedpods from the tiny, late-season, closed (cleistogamous) self-fertilised flowers. We also saw the white form of Hemp-Nettle *Galeopsis tetrahit* but not the more normal pink one.

Down by the lake there was a profusion of interesting wetland plants, notably Marsh Cinquefoil *Comarum palustre*, Bogbean *Menyanthes trifoliata*, Tufted Loosestrife *Lysimachia thyrsiflora*, sadly without any sign of flowers, a spread of Bottle Sedge *Carex rostrata*, Water Horsetail *Equisetum fluviatile*, Skullcap *Scutellaria galericulata*, Water *Myosotis scorpioides* and Tufted *M. laxa* Forget-me-nots, Water Mint *Mentha aquatica* and the hybrid 'Whorled Mint' *M. x verticillata*, Marsh Speedwell *Veronica scutellata*, Gipsywort *Lycopus europaeus* and Marsh Pennywort *Hydrocotyle vulgaris* - including its tiny flowers which are rarely seen (Fig. 19 p236). For a full list of plants recorded see Appendix on the YNU website at https://www.ynu.org.uk/naturalist

MOLLUSCA (Terry Crawford (TC) and Tony Wardhaugh)
During the day 44 records were made from three 1km squares with a total of 33 species recorded. Several individuals of the Smooth Snail *Aegopinella nitidula* were seen along the Cleveland Way footpath during the morning. This common snail normally has a brown shell with a waxy sheen but one empty shell found was the white form, var. *helmi*. In Garbutt Wood an Ash-Black Slug *Limax cinereoniger* was found (SE50902.83295), a mollusc generally associated with ancient semi-natural woodland. In contrast, also recorded here at SE50425.83302 was a Green-Soled or Durham Slug *Arion flagellus*, a recent colonist which is spreading rapidly across Britain. Others of interest in this area included the Prickly Snail *Acanthinula aculeata*, Silky Snail *Ashfordia granulata*, Plaited Door Snail *Cochlodina laminata*, Lesser Bulin *Merdigera obscura* and the Toothless Chrysalis Snails *Columella aspera* and *C. edentula*.

Lake Gormire is home to a population of the glacial relict bivalve *Pisidium lilljeborgii,* last found here in 2006 (Wardhaugh & Wardhaugh, 2007). In the time available during the meeting four freshwater molluscs were found but unfortunately not *P. lilljeborgii*.

Note (TC).
On 26 September 2012, TC together with David Lindley and Adrian Norris and visitors Ben Rowson and Bill Symondson of the National Museum of Wales, very briefly walked along a short stretch of the Cleveland Way footpath and recorded at SE515828 to SE515827. From memory, on that earlier occasion we recorded more species than on this Field Excursion, even though this time we searched a greater length of the path, and I thought this attributable to the very hot and dry conditions in summer 2018. On checking back, 18 species were recorded in 2012 against only nine in 2018. The combined list is 24 species, i.e. only three were taken on both occasions (Rounded Snail *Discus rotundatus*, Kentish Snail *Monacha cantiana* and Strawberry Snail *Trochulus striolatus*, all generally very common snails). This indicates the value of revisiting sites.

MYRIAPODA (Tony and Moira Wardhaugh)
The most notable millipede recorded was a juvenile *Chordeuma* sp., presumed to be *C. proximum* (an adult male is needed in order to distinguish between this species and its congener *C. sylvestre* but in Britain the latter is known from only a very few sites, all in Cornwall). It was found in leaf litter beneath a Holly tree in Garbutt Wood YWT reserve (SE5045.8330). *C. proximum* is restricted very largely to the south-west of Britain and was first recorded in Yorkshire in 2013 (Wardhaugh 2013). Garbutt Wood is the fifth site in Yorkshire where this millipede has been found, all known records being from ancient semi-natural woodlands in VC62. In addition, three much more common millipedes were found in the area. No centipedes were noted during the day but four common woodlice were recorded, all within the Garbutt Wood YWT reserve.

LEPIDOPTERA (Terry Crawford and Andy Grayson)
A strong south-westerly wind was blowing so we saw few butterflies or moths. This was especially the case along the exposed Cleveland Way path, where only a couple of *Agriphila tristella*, a crambid grass moth, were put to flight. Garbutt Wood provided some protection from the wind and we saw several Speckled Wood butterflies taking advantage of warmer sun-spots. Also seen in the wood were a single Common Carpet, a common geometrid moth that is often disturbed to flight during the day, and evidence on the Horse Chestnut trees near

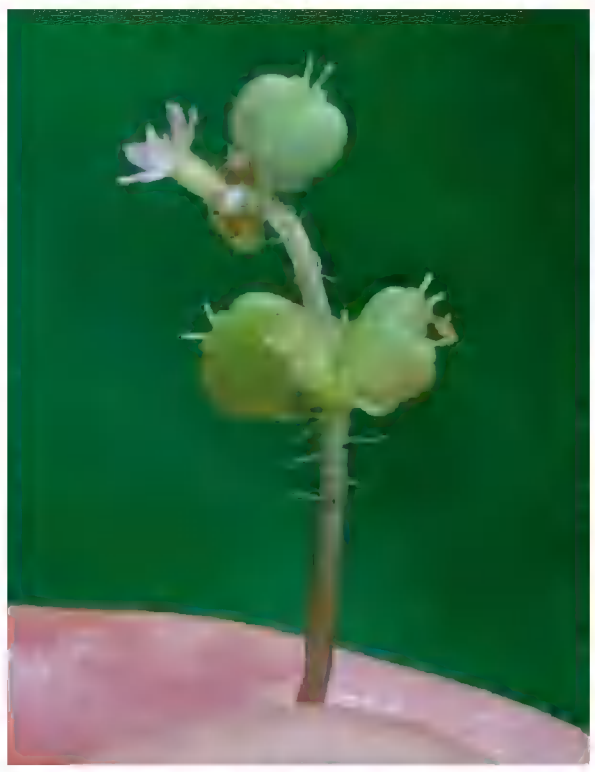

Figure 19 (see p234). Flowers of Marsh Pennywort *Hydrocotyle vulgaris.* *A.Wardhaugh*

Figure 20. Wall butterfly. A species becoming scarce at inland sites in the UK. *A.Grayson*

Lake Gormire of the Horse Chestnut Leaf-miner *Cameraria ohridella*. By the end of the afternoon the wind had dropped and all three 'cabbage' white butterflies together with Holly Blues were flying around the young trees between the Visitor Centre car park and the top of Sutton Brow (SE513831). A Wall was seen on High Town Bank Road (Fig. 20).

ODONATA

Brown Hawker *Aeshna grandis,* Southern Hawker *A. cyanea* and Common Blue Damselfly *Enallagma cyathigerum* were seen flying over Lake Gormire (SE504832).

COLEOPTERA (Tony Wardhaugh & Andy Grayson)

Figure 21 (see p237). Knotgrass Leaf Beetle *Chrysolina polita* (left) and Willow Leaf Beetle *Lochmaea caprea.* *A.Wardhaugh*

The very common Black Clock Beetle *Pterostichus madidus* was found on the path (SE517822) and during the afternoon several Kidney-Spot Ladybirds *Chilocorus renipustulatus* were seen, including eight on one Ash trunk (SE51283). In the Garbutt Wood area two leaf beetles (Chrysomelidae), the Knotgrass Leaf Beetle *Chrysolina polita* and Willow Leaf Beetle *Lochmaea caprea* were found (Fig. 21 p236). The attractive ground beetle *Poecilus cupreus* was seen by AG on the A170 near Valley View (SE 505825). (See Appendix available at https://www.ynu.org.uk/naturalist for a full list of Andy Grayson's records.)

HYMENOPTERA ACULEATA (Andy Grayson)

Few bees and wasps were reported. Near Lake Gormire AG recorded the Slender Mining Bee (= the Common Furrow Bee) *Lasioglossum calceatum* and Common Carder Bee *Bombus pascuorum*. The latter and the Large Red-Tailed Bumblebee *Bombus lapidarius* were also recorded on High Town Bank Road.

DIPTERA (Malcolm Birtle and Andy Grayson)

A good list of common hoverflies were recorded. During the morning, by the Cleveland Way footpath (SE517825) was *Conops quadrifasciatus*, whose larvae are endoparasites of bumblebees. On High Town Bank Road AG recorded; *Epistrophe grossulariae* and *Eristalis interruptus*, and later in the afternoon saw *Cheilosia pagana*, *C. scutellata*, *Chrysogaster solstitialis*, *E. grossulariae*, *Leucozona glaucia*, *Platycheirus granditarsus* and *P. rosarum*, among others, near Lake Gormire.

BIRDS

Birds seen included Coal Tit, Siskin and, most notably, a Peregrine Falcon in flight over the Hood Hill Plantation area during the morning.

VERTEBRATES

The only evidence of mammals seen during the day were molehills in various places. A small Common Frog was seen by Lake Gormire.

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YNU Conference and Exhibition 2019

The 2019 YNU conference is being organised in partnership with the North and East Yorkshire Ecological Data Centre (NEYEDC).

The conference will take place on **Saturday 6th April** in the **Ron Cooke Hub, University of York**, on the topic of **'New tools and technology for biological recording and conservation'.**

Recent years have seen a proliferation of new technologies and techniques for ecological surveillance and monitoring, but little has been done to facilitate their evaluation and roll-out for use by amateur naturalists and conservation practitioners. Barriers include lack of access to training, mentoring and equipment, a shortage of relevant showcases and the absence of a regional forum to share knowledge and promote development of new applications and partnerships. New technologies are of little use if they don't meet real needs on the ground and help to answer questions that will support better land management and conservation measures.

In June 2018, with Heritage Lottery funding, NEYEDC launched the NatureHack project to help local naturalists to adopt new technology for applications that are relevant and useful to them. Since then, NEYEDC staff have met a huge number of people to discuss the technologies they already use, the ecological questions they want to answer and the ways they would like to monitor their sites in future. They have carried out fieldwork with local groups to demonstrate data collection using a survey drone, acoustic monitoring and eDNA methods. A particular success has been their progressive series of workshops on the free mapping software, QGIS. QGIS is an extremely powerful tool for visualising and analysing ecological data and a wonderful way to make use of the increasing amount of openly available data. Unsurprisingly, these workshops were incredibly popular and extra sessions have been organised to cope with demand! Many YNU members and affiliated societies have already benefited from the NatureHack project and we hope that many more will do so before the project's completion in December 2019. We are delighted to be collaborating with NEYEDC to organise this conference to share knowledge, hear about inspiring case studies and discuss future opportunities.

The conference will include a range of talks and demonstrations presenting local and national case studies – there is sure to be something of interest to all YNU members! Throughout the day there will be natural history displays, book sales and plenty of time for networking. It will be a great opportunity for newer members to meet others and find out more about the YNU. The programme will be published on the YNU website in due course.

Conference tickets are **£25** for YNU members and **£30** for non-members. This includes the conference lunch and refreshments. Further information and booking can be found at www.ynu.org.uk/conference2019

If you would like to bring a poster or display on the theme of new tools and technology for biological recording and conservation, please contact the conference organiser, Paula Lightfoot, on p.lightfoot@btinternet.com or 07539 340128.

If you would like to help with Conference organisation, please visit the conference page on the YNU website for information on how to contribute.

Book Review

An Account of the Birds of the Huddersfield District. Mosley, S.L. (1915). Available as a free downloadable ebook from the Huddersfield Birdwatchers' Club website: http://www.huddersfieldbirdwatchersclub.co.uk/mosley-book/4594449079

This book was originally published in 1915 by Seth Lister Mosley (1847-1929), the museum curator at Huddersfield Technical College, who clearly had a passion for birds. We are now so used to local and national avifaunas and atlases that have been compiled using data collected by many fieldworkers using top of the range optical equipment, it is worth remembering that in Mosley's time these data were primarily obtained by shooting specimens and collecting eggs. His "regret" that his book was "a record of murder and plunder from beginning to end" shows a way of thinking and compassion way ahead of his time.

The publication includes accounts for the 187 species recorded at the time (for comparison the area list is now at 269), broken down into seven Orders that will be unfamiliar to modern day taxonomists: Perchers, Birds of Prey, Waders, Climbers, Scratchers, Swimmers and Runners. For each species their status in the area is detailed, with Mosley's own observations giving the text a very personal feel. For some species there are scriptural notes, along with information for farmers, gardeners and teachers that are perhaps some of the earliest examples of positive conservation advice being disseminated to a wider audience. The distribution maps that are published for some species were an innovative idea, not seen before in similar publications. Mosley is very modest about his colour plates but, to my eye at least, some of these are more lifelike than some contemporary illustrations.

There are many examples of the changing fortunes of local species. Mosley concluded that Carrion Crow had not bred in the district for many years, that Goldfinch was a winter visitor which may have bred and he notes the start of the Yellow Wagtail decline. There were only two records of Nuthatch; Ring Ouzel were still widespread but Mosley noted that the "breaking up of moors" was beginning to restrict their range. Unfortunately, some attitudes of the time still persist as he noted that in areas managed for game any species that "had any likeness to a hawk or an owl has been most unmercifully persecuted", resulting in a number of species that were, and still are, very rarely seen. Lapwing bred in large numbers; there were only two records of Oystercatcher and surprisingly, there was no evidence of breeding Curlew. There was only one record of Canada Goose and the sole record of Greylag Goose was classed as doubtful.

The book was originally available in instalments by subscription but with only 40 complete sets published, and just 25 or so original copies remaining, these are highly sought-after by collectors or only available to read in reference libraries. I really enjoy these types of local historical accounts and the value of these publications being available to help aid conservation bodies assess population changes, and for the general interest of naturalists, should not be underestimated. The Huddersfield Birdwatchers Club should be congratulated for making this informative publication available to all free of charge.

Ian Court, YNU North Yorkshire Bird Recorder

YNU Calendar

Events for the coming months are shown below. Up-to-date information and further details can be found at www.ynu.org.uk/events, and the YNU Membership Card.

Feb	2	**YNU Natural Sciences Forum.** In the Function Hall at St Chad's Parish Centre, Headingley, Leeds, 10.30 to 12.30.
Mar	10	Lepidoptera Group Annual Meeting. Bramham Village Hall 11.00.
	23	Entomological Section Recorders' Reports and Conversazione. Wilberfoss Community Centre 10.30 to 4.30.
	23-24	Marine and Coastal Section Seaweed identification weekend by Dr Jane Pottas at Yorkshire Wildlife Trust Living Seas Centre, South Landing, Flamborough. For more information and booking contact Paula Lightfoot via p.lightfoot@btinternet.com
Apr	6	**YNU Annual Conference and Exhibition**. Ron Cooke Hub, University of York.
	20	Marine and Coastal Section field meeting to Boggle Hole, NZ952037. Meet at 9.30 in the car park on Bridge Holm Lane.
	27	Conchological Section field meeting at Barton, N.W. Yorkshire, VC65, to survey for *Balea perversa* on walls in the village. Meet in village at NZ22960879.
May	4	Conchological Section field meeting at Malham, VC64, to survey for *Vertigo genesii*. Meet at Street Gate SD90486564 which is close to the site.
	4	Bryological Section field meeting to Sulber and Thieves Moss, VC64. Meet at 10.00 in the car park in Horton in Ribblesdale, SD807726.
	18	**VC62 Excursion to Stockton Hermitage**, Stockton-in-the-Forest SE651577.
	18	Botanical Section field meeting to the Don Gorge, Sprotbrough, VC63. Meet 10.00 at the Waterbus Staithe car park, Nursery Lane, Sprotbrough. Grid ref SE537015. Nearest postcode DN5 7NB.
	19	Marine and Coastal Section field meeting to Sandsend, NZ860129. Meet at 9.30 in the car park next to Wits End Café (pay and display).
June	2	Conchological Section Sunday field meeting at Brockadale VC63 to survey for *Truncatellina cylindrica*. Meet in car park at SE51271734.
	22	**VC63 Excursion to Edlington Community Woodland**, Edlington, SK547990.
	28	Joint Entomological, Botanical and Freshwater Sections field meeting to Rushy Moor and Shirley Pool SSSI. Meet at 10.00. Access via entrance gate on eastern side of A19 at SE557123. Inform Louise Hill via louise.a.hill@gmail.com if you will be attending.
July	6	Marine and Coastal Section field meeting to Filey Brigg, TA120814. Meet at 11.30 ouitside Country Park Cafe (pay and display).
	13	**VC64 Excursion to High Batts Nature Reserve**, North Stainley SE300764.
	27	**VC65 Excursion to Semerwater,** Yorkshire Dales, SD918866.
Aug	3	Marine and Coastal Section field meeting to Selwicks Bay, Flamborough, TA253706. Meet at 10.30 outside the cafe in the car park (pay and display).
	17	**VC61 Excursion to Lower Derwent Valley NNR**, North Duffield Carrs and Ings, SE697366.
Sep	25	University of Leeds MSc Field Skills Day.
Nov	9	**YNU Annual General Meeting.** Whitby Museum, Pannett Park, Whitby, from 1.30 to 4.00.

Yorkshire Naturalists' Union

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